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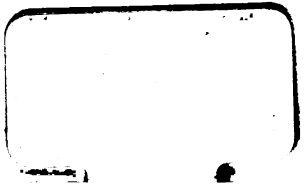

The descent of Beauty accompanied by Love.

London. Published by Knight & Lacey, June, 1825.

J.K. 1825

THE

ART OF BEAUTY;

OR, THE

BEST METHODS OF IMPROVING AND PRESERVING THE SHAPE, CARRIAGE, AND COMPLEXION.

TOGETHER WITH,

THE THEORY OF BEAUTY.

LONDON:

PRINTED FOR KNIGHT AND LACEY,

PATERNOSTER ROW;

AND WESTLEY AND TYRRELL, DUBLIN.

MDCCCXXV.

19

LONDON:
Printed by D. S. Maurice, Fenchurch Street.

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THE

ART OF BEAUTY.

We intend not to fill this little book with pretty speeches, and pretty paragraphs, to impose upon the ear, and mock the understanding, with "unreal seeming;" but to collect what is useful and practical, both from authors who have preceded us, and from our own researches and experience. Plainness, also, we deem to be no less requisite than utility, on subjects which the learned so commonly involve in mystery; and therefore we shall dress our philosophy in plain apparel, and teach our art fully, clearly, and without reserve.

A clever author commences a work on the same subject, according to the usual mode of book-making, with a History of Beauty, and the Theories of Philosophers respecting it; and we were advised by certain members of our council to do likewise. But, in opposition to this, we have resolved to teach our

Art in the first place, and to consign the Theories to the end of the volume, to which order of things their real value, in our estimation, justly entitles them. It is of less importance to be minutely particular in what manner the minor divisions of the subject are arranged; and so, without having recourse to logical nicety of order, we shall follow our fancy, and begin with directions for improving and preserving the beauty of the shape, and elegance of movement.

I. THE BEAUTY OF THE SHAPE AND CARRIAGE.

Discarding the erroneous and absurd opinion entertained by some painters and critics, that only *one* size and figure *can* be beautiful,* and that all deviations from this ideal form and size must approach to deformity,—we say, that the forms of beauty in the human figure are as infinite as the varieties of human genius; and that the majestic commanding beauty can no more be compared with the winning enchanting beauty, than the genius of Sir Isaac Newton can be compared with that of Shakspeare, however nearly these may agree in a few points of minor moment. We admire the sprightly beauty no less than the modest retiring beauty; and though Campbell has pronounced that

* This opinion is discussed at length at the end of this work.

"Beauty's tears are lovelier than her smile,"*

we should be disposed to reject his decision of preference, on the same principle.†

You will perceive from this, that we do not mean to attempt impossibilities, such as reducing the stature and form of a majestic beauty, to the little delicate figure of the Venus de Medicis; nor to enlarge the proportions (in foolish opposition to nature) of a diminutive beauty, to the classical dimensions of the Trojan Helen. All those varieties of beauty may each be exquisite, and unsurpassed within their own proper sphere; and we shall, therefore, bend our attention to assist, rather than to thwart, the several varieties of beauty, which nature has kindly bestowed on *all* our fair readers.

We need not, therefore, according to these principles, enter at large into a description of beautiful proportions, and measurements of the same in feet and inches, such as you will find in Fresnoy, and in all the Encyclopædias. It will be enough to refer to the general standard of human nature, of which every person has a more correct idea from experi-

---

* *Pleasures of Hope.*

† A simple experiment, we think, would cure the poet of his error. Let him get any lacrymal beauty of his acquaintance to weep for six hours successively, and if he can sit and admire her so long, and continue in his opinion, we shall give up the point.

ence, than we can impart by vague description, and to say that the general figure of the body must conform to this standard, without any deformity of stooping, curvature, or disproportionate enlargement or diminution of any of the parts or members. This will be better understood, however, by a practical detail of the

I. CAUSES AND PREVENTIVES OF DEFORMITY.

It is always much easier to prevent, than to remedy or cure; and hence it becomes so highly useful to investigate causes, as the best and only foundation for rational and successful practice. When we once acquire a clear notion of the cause, it soon becomes evident what remedy to try; or, perhaps, that it will be unavailing and hopeless, if not dangerous, to attempt a cure by any means. The inquiry which we are now entering upon will disclose many unwelcome truths; inasmuch, as it will be perceived how far ignorant management is blameable for the numerous deformities that have lately been so much on the increase; and, what is more, how far the absurd and unscientific methods resorted to, add to the evils which they are intended to remedy. It will be requisite to commence our inquiry with the earliest periods of infancy.

DEFORMITIES PRODUCED BEFORE BIRTH.

Some ladies, in order to preserve their shapes as

much as possible, during the latter months of pregnancy, wear long corsets, laced as tight as they can bear without much pain, for it can never be pretended that they can endure this without considerable uneasiness. Were this, however, all the evil, we should leave the immediate sufferers to enjoy the inconvenience; but when we know the injurious effects likely to be produced on their offspring, we must warn them of the danger;—for tight lacing must affect the natural growth of the infant, and will either dwarf it in size, or deform it in shape. This evil is independant of the injury which the health of the mother must suffer, in consequence of her digestion, breathing, and the free circulation of the blood, being all impeded in consequence of the tight lacing; and as it is well understood that the health, and of course the due growth, of the infant before birth depends on the health of the mother, this must be added as a sure cause of deformity, to that arising from actual pressure upon the infant itself. Besides this, the serious immediate evils which this practice often occasions, ought to be a warning to all mothers against its adoption. White and Doëring have known corsets actually displace the womb; and M. Desormeaux, of Paris, has seen tight lacing during pregnancy produce dangerous inflammation of both the breasts and the womb.* The compa-

* See *Dictionnaire de Medicine.* ART. *Grossesse.*

nionship, indeed, between those important organs, is so close, that injury to the one is almost always followed by disorder in the other; a fact which ought to teach mothers never to wear any thing tight over their breasts during pregnancy; for this will always tend to prevent the healthy growth of the infant, by deranging the functions of the womb, and may be the cause of incurable deformities in the child.

DEFORMITIES PRODUCED BY IGNORANT NURSING.

It requires but little reflection to perceive that the feebleness and delicacy of infancy must be liable to many accidents productive of deformity. The bones are then soft and unfinished, and the joints are slight and tender, while the muscles, that in after life serve to bind them and keep them firm, are soft and yielding. But, though all this is obvious enough, when it is mentioned, you will find few nurses or parents indeed who ever think of it in the management of infants. Nothing is more common, for example, than to see a young infant placed in a sitting position, while its poor little head moves as if palsied, in consequence of the feebleness of the neck; and its tender back bends and twists, and is, perhaps, injured for life.

There can be no doubt of the fact, that a child will not cry unless it is in pain:—what, then, are we to think of the skill of the nurse, who causes an infant to scream all the time she is dressing it, or of

the knowledge of the surgeon who teaches his pupils and the profession, that "all children cry when shifted and dressed?"*—We say, on the contrary, that no child will squall unless it is tossed and rolled about, as if it were a bundle of rags and had no feeling; and its little limbs, as well as its body, twisted and pulled till the joints often crack again. Is it, we say, to be wondered at, that deformities, dislocations, and swellings, should result from this cruel and unnatural practice, independently, altogether, of the rude dandling and tossing which the little unfortunate suffers as soon as it is a few weeks old? The wonder would be, on the contrary, if deformed limbs and curved spine were *not* prevalent.

We should direct the infant to be handled as little as possible, and that in the gentlest manner; avoiding every motion which might give it uneasiness, or make it cry. At Vienna, they use, for dressing infants upon, a large square cushion filled in such a manner as to be pliable to every motion. After being washed, they are laid on the cushion to be dried and dressed, without having their arms pulled about, or being forced to sit, which ought never to be done except when they are fed.

We do not object to exercising infants and children, if it be done gently and rationally, without exposing them to injuries which might deform them;

* See *Burns's Principles of Midwifery*, iv. § 2.

but we enter our protest against the maxim laid down by the late Dr. J. B. Davis—"Never prevent a child from attempting to walk, however young it may be"*—for we have seen more than one instance in which the permitting of a child to walk or even to stand, while its limbs were feeble and the bones soft and unconsolidated, was productive of bandied legs and other evils. The rule of increasing strength by exercise is good in general, but it may readily be abused, and particularly in the case of infants.

Let us take a lesson from the Indian nurses. Among the natives of Hindostan, deformities are almost wholly unknown, and why?—Clearly, we think, in consequence of their superior nursing. The Hindoo nurse seldom or never takes an infant on her knee or in her arms. She puts it down on the floor, or on a mat; and it not only gives her little trouble, but it is much more contented, and thrives greatly better than if nursed in the English manner. The little things lie quietly on their mat till they feel strength to roll about; and this they acquire so rapidly, that in about three or four months they actually can raise themselves and sit upright without assistance; and at nine or ten months, can, of themselves, get up on their legs and

* See *Oracle of Health*, vol. ii. page 128, for an excellent paper on the Management of Infants, by Dr. Davis, of the Royal Dispensary for Children.

walk. The objection just stated, against permitting children to stand and walk early, will not apply to this case, in which their natural strength is not forced. We had the information from a lady who had been in India, and treated her children according to what she justly considered a great improvement.

English nursing, in the sense in which it is usually understood, may be rightly interpreted the art of deforming and weakening children by ill-directed care. For example, nothing, as we have said, can be more evident, than that an infant is not designed by nature to sit upright, or hold its head upright, a few days or weeks after birth; and yet the English mother and the English nurse hesitate not to hold it in this unnatural, and, to it, painful position, though its cries manifest its disquietude. That the pain thus ignorantly given to the little sufferer makes it fretful and passionate, is not to be wondered at; but this is only one of the evils of the practice. The bones of the back and neck are, in early infancy, separated by soft gristle, which is easily compressed; and if the infant is held unnaturally upright before this gristle acquires firmness, deformity must ensue—there is no help for it. The shape may not, indeed, be always twisted, nor the back humped; but the growth must be stinted and dwarfed, and the fine natural form of the body much injured.

Were these principles universally understood and

acted upon, a deformed shape, a hump back, a short neck, or a chicken breast, would be almost unknown; on the present system of nursing, every body can testify to their frequency. The ladies, however, who have been in India, and their friends, are slowly, but surely, introducing the more rational method of leaving infants more to themselves; allowing them to lie on a mat, or in a tray, while awake, and not interfering with their growth and shape, by foolish arm-and-knee nursing, and rash dandling. We have much to say also on the habits of independence, or self-dependence, which are thus taught from the very day of birth; but this is not the place to expatiate on the subject.

It may be remarked, that the practices we have just reprobated are far more likely to produce deformities than falls or blows, which seldom, unless very serious, do great injury, in consequence of the pliableness of the parts. The head of an infant, in particular, will stand a severer blow, in proportion, than that of a grown-up person; because, the bones are still in a separate state, and yield, rather than break. Among other careless practices of nurses, is that of carrying the child always on the same arm. This is almost certain to render it crooked, or to deform some of its members; but this is seldom, if ever, attended to as it ought. You will understand the evil better from Mr. Shaw's sketch, at page 16, of Mal-position in bed.

DEFORMITIES PRODUCED BY CLOTHING IN INFANCY.

The absurd practice of tight swaddling, still followed in many parts of the continent, by which the child is wrapped-up like a mummy, with bands curiously crossed, stretching out the arms and hands, and securing the head with tapes, has given place, in England, to more natural and rational customs, though these, also, often require amendment. Bands and rollers, when tight, must not only be painful, but dangerous; tending to interrupt the current of the blood, and, consequently, checking the growth in some parts, and giving it an improper bias and direction in another, while it may produce convulsive fits, and terminate in decline.

On laying aside the swaddling bands however, and adopting a looser mode of dress, we have, perhaps, deviated from nature, and fallen into the opposite extreme; and, from the wish to allow the infant all possible freedom of its limbs and functions, we have supposed that all restriction of dress is unnecessary or hurtful; though it is ascertained, by experience, that dress made to fit, and not too tight, affords great support to the feeble muscles of infancy. In a word, the medium between the two extremes is, perhaps, the best.

The most judicious practitioners advise, from experience, the night-clothes to be both lighter and

more loose than the day-clothes, in order that the body may not be restrained in its growth by exhausting sweats, nor the limbs cramped, and the current of the blood interrupted.* Nurses are, in general, ridiculously afraid of cold; and are, almost uniformly, apt to go into the hurtful extreme of dressing the child too warmly. It is scarcely to be credited, yet it is no less true, that the practice of cramping infants in stiff stays has been lately introduced, and is gaining ground. A more effectual plan for deforming them could not be devised.

DEFORMITIES PRODUCED BY DRESS IN YOUTH.

The rational rule of dress is to protect the body from the vicissitudes of the weather,—to give an air of elegance and modesty,—and to go hand in hand with nature in the developement of the stature and form of the body, and in the support of its position. It should follow, that every part of dress which answers neither of these purposes, must be useless or injurious, and ought to be abandoned. It is to the two last effects that our observations, as to the production of deformities, must be confined.

The erect position of the body is chiefly preserved by a number of strong fleshy bands or ribbons, called muscles, about three hundred in number, which both serve to move the different parts of the body, and to hold the bones firmly in their several

* *Dr. Hamilton on the Management of Infants.* p. 26.

positions. Now it is an invariable rule, that if you cause a pressure on any of those muscular bands, by means of dress, it will soon diminish in size, and will, consequently, lose the power of supporting the bones in the natural position, and its function of producing easy and natural, or, in other words, graceful movements of the parts to which it is attached. This is strongly exemplified in the case of those impostors, who bandage their limbs till they are diminished, frequently, to half their natural size, for the purpose of exciting commiseration and extorting charity.

On this principle, we put an unequivocal condemnation on all sorts of dress which is made so tight as to compress any part of the body or the limbs, and which, by this means, cramps both the free motion of the muscles, and flattens their natural diameter and plumpness of structure. Corsets, therefore, and bands of every description, as well as tight sleeves or garters, must, infallibly, produce mischief, and there is no possibility of avoiding it. The muscles are squeezed, flattened, and prevented from moving; and their healthy tone and fulness give place to contraction, shrivelling, and emaciation. This has the effect of giving the back a twist, throwing the shoulders out of their natural position, contracting the chest, and causing an ungraceful stoop in walking.

All this is much aggravated by the effect pro-

duced, from the same mode of tight dressing, on the free current of the blood, which is so indispensible to supply nourishment for the daily waste of the body.* Because, if the blood is prevented from flowing freely, and in a full current, to these muscles, which sustain the upright position of the body, and are the instruments of every movement, they must pine for want of nourishment, through feebleness; and when they are unable to keep the body up, it must bend, twist, and stoop, whilst every motion will be ungraceful, because it is unnatural.

Such being the uniform consequence of corsets and tight clothing, and, more particularly, to those who are young and growing, we cannot too strongly impress it upon parents and governesses, to attend to our advice before these effects have acquired a permanency in the system which it may be extremely difficult, if not impossible, by any subsequent treatment, ever to remove. The great philosopher, Locke, who was also a medical man, remarks, and most truly, that whalebone stays often make the chest narrow, and the back crooked; the breath becomes fœtid, and consumption, probably, succeeds; and, at the best, the shape is spoiled, rather than made slender and elegant, as had been foolishly imagined, by the inventors of this unnatural and injurious piece of dress. Corsets, we allow, might

* See *Medical Advice in Indigestion*, page 13.

be made not only harmless, but beneficial, if they were solely contrived for aiding the muscles in support of the body. If they do more than this; if they are made to compress the chest and stomach, by tight lacing, they become hurtful and destructive.* These bad consequences will be still more manifest from what we shall afterwards state, with respect to the absurd mechanical means so often resorted to in boarding schools, for improving the shape.

DEFORMITIES PRODUCED BY POSITION.

It will follow, from the principles already illustrated, that any unnatural position, long continued, will have an injurious effect upon the shape, particularly when a young lady happens to be of a sickly or debilitated constitution. With this view, Dr. Darwin says, that young ladies should be directed, where two sleep in a bed, to change every night, or every week, their sides of the bed; which will prevent their tendency to sleep always on the same side; as this is not only liable to produce crookedness, but also to occasion diseases by the internal parts being so long kept in uniform contact as to grow together. For the same reason, they should not be allowed to sit always on the same side of the fire or window, because they will then be inclined, too frequently, to bend themselves to one side. We shall

* See *Dictionnaire des Sciences Medicales.* ART. *Corset.*

give one or two illustrations, as examples, of what we mean. We cannot give a stronger instance than

MR. SHAW'S SKETCH OF A MAL-POSITION IN BED.*

When the pillow is very high and the bed soft, as in the case of feather and down beds, the attitude into which the body falls during sleep, as shown in the vignette, is very hurtful to the shape. The loins sink into the bed, the upper shoulder is pushed out of its natural place, the back is twisted, and the neck is turned awry. A girl who is accustomed

* We feel greatly indebted to Mr. Shaw, of the Theatre of Anatomy, Great Windmill Street, for his obliging permission to use his splendid folio plates in the illustration of our work. We cannot too strongly recommend Mr. Shaw's work to all who are interested in the inquiry.

to lie in this mal-position for years together, as is sometimes the case, can scarcely fail to have her figure injured, particularly if she be weakly. Instead of a soft bed, a hair mattress should be used, with a rather low elastic pillow. Mr. Shaw is for dispensing with the pillow altogether, when any twist or distortion has manifested itself. But we cannot go quite so far; as this, we conceive, would give rise to head-aches, and other evil consequences.

MR. SHAW'S SKETCH OF A MAL-POSITION WHILE WRITING.

It will be seen from this sketch, that the spine and shoulders are much in the same awkward position as from lying on a soft bed with a high pillow. Mr. Shaw recommends the placing of a book under the left arm, to equalize the height of the shoulders;

and if that is not found sufficient, to balance a book upon the head, according to the principle of M. Andry, which we shall explain below.

MR. SHAW'S SKETCH OF A MAL-POSITION WHILE PLAYING ON THE HARP.

The position in the sketch, which is the approved attitude in playing on the harp, will act in a similar manner on the shape to the two preceding positions; and, therefore, young ladies require to be carefully

attended to while learning the harp. The harp is usually begun, indeed, after the shape is confirmed, and the bones well knit together; but if the slightest twist or distortion has taken place, this position will not fail to aggravate the evil.

II. MECHANICAL METHODS OF IMPROVING THE SHAPE.

In order to understand the beneficial or the injurious effects of the varied and opposite plans which have been invented for preserving and improving the shape and carriage, it will be requisite to go a little into the science of the subject. But, though we should take you ancle deep into the sea of philosophy, we shall be merciful to you, if you should prove indifferent scholars, by making our illustrations plain, as we would rather gain the character of being homely and practical, than unintelligible and useless. We shall, therefore, proceed to introduce you to the scientific principles upon which we ground the

EFFECTS OF EXERCISE AND REST.

Our philosophy, then, is founded on the fact, that the more frequently and vigorously any member of the body is exercised, the more the blood will flow to that member; and as the blood is the chief agent for imparting strength, the greater the stream of blood, the more vigorous will the member become. Try the experiment of tying up an arm or a leg,

to prevent its motion, while the other is exercised, and it will shrink and dwindle away to a skeleton, while the one that is exercised will remain in flesh and be strong.

We prove our science by a more familiar example. Compare the delicate, soft, silky hand of a fashionable lady, with (pardon the comparison,) the hand of a charwoman. The one is pale, bloodless, and feeble; the other is purple-red, full of blood, and firmly strong in every sinew. But let the lady and the charwoman change situations for twelve months, and the case of the hands will be, in a great degree, reversed. The lady, compelled to exercise her hands at all hours, will drive the blood to them in an increased current, and it will give away part of its nourishment to the sinews and muscles every time it passes them in its journey to and from the heart, that is, about every five or ten minutes in the day. The sinews, in consequence of this extra supply of nourishment, will become thick and strong, and the hands red and coarse. The charwoman, on the other hand, now placed, according to our supposition, in her fine drawing room, with nothing to do, has the current of blood, which was formerly driven by labour to her hands, interrupted, and stagnating idly about her liver or her brain; and her hands will, consequently, become pale, delicate, and feeble, for lack of their accustomed stream of blood.

Sir A. Carlisle has ingeniously remarked, that in birds of prey, or such as remain long on the wing, the wing muscles are not only larger, but much more florid, in consequence of the increased stream of blood;* and it has been remarked, on the same principle, that the muscles connected with the voice in the sky-lark, which are long exercised, have a similar appearance.† In persons who have undergone amputation of one of the limbs, it is commonly found that the other, from the additional exercise imposed on it, becomes larger and more powerful.‡

We do not know a more striking and apposite example of this fact than what may be observed with respect to professed dancers.§ Look at an opera dancer who has been at the profession from childhood, and you will, at once, understand what we mean. The legs of such a person, from having been so much exercised, in making extraordinary leaps and pirouettes, are of Herculean size and strength, while the arms are small and feeble. Those, on the other hand, who practise horsemanship and tumbling, are much better proportioned

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* *Philosophical Transactions*, vol. xc.

† *Oracle of Health*, vol. i. p. 181.

‡ *Ward on the Spine*, p. 7.

§ See *Macartney*, in the *Transactions of the Royal Irish Academy for* 1817.

than mere dancers, because their exertions are not confined to the legs, but bring all parts of the body into play. Yet, as Mr. Shaw well observes, all the muscles of their body are so much increased by their performance of feats of strength, that their appearance may almost be considered a deformity.

Mr. Shaw, very justly, we think, illustrates the deformities of the feet, often produced by dancing, by the stretching of the tendons in cases of violent sprains. This always renders the tendons weak and spongy, while, after long and undue stretching, they become unnaturally lengthened and elastic. The tendons, indeed, of the ancles of most admired dancers are so unnaturally stretched, that in certain postures, as in the bolero dance, the shin nearly touches the floor; so bad, indeed, is the effect occasionally produced by frequent stretching, that the feet of many dancers become quite deformed; for the tendons, which bind the bones together, become so much lengthened by dancing, and standing on the tips of the toes, that the natural arch of the feet is at last totally destroyed. This effect is very evident, when the dancer is obliged to bring his heels to the ground, as in walking the streets; he then appears lame, the position having become almost unnatural to him. The gait of an opera dancer, in walking, may be said to resemble, in some respects, that of a bear dancing; for this animal,

which, like all other quadrupeds, walks on the tips of his toes, must, when obliged to dance, bring his heels to the ground.

Mr. Shaw's observations are taken in the extreme, and he does not mean to say every young person who dances shall have the arch of the foot destroyed; but if such effects occur with opera dancers, they must, to a considerable extent, influence all who practise dancing; and more particularly girls, the tendons of whose feet being weak, will be easily stretched, and deformity produced. Recollect, we do not condemn dancing, we only denounce its abuse.

Dr. Macartney mentions a case no less in point. It frequently happens, that strong and labouring people acquire some lateral inclination of the body, and a projection of the shoulder-blade, from employing only one hand in their work. In these cases, the shoulder which is least exercised, is the one that stands out; while the other is, from the exercise, always of a peculiarly fine form.*

It will now be an easy task to apply these principles to the improvement and preservation of the shape and carriage, bearing in mind that overstretching any of the muscles, without rest or remission, tends to destroy their tone and their natural proportions. We shall accordingly proceed to the ex-

* *Trans. Roy. Irish Academy, for* 1817.

amination of the various contrivances now in use in schools and private families, with a reference to the figure and carriage of young ladies. We shall begin with .

SHOULDER BRACES.

The incessant injunction of mothers and governesses, *to keep the head up, and the shoulders back*, is founded upon the most erroneous and dangerous principle; being entirely in opposition to the law of nature, that, in order to keep the body healthy, rest must succeed exertion. Man, it has been well remarked, was formed to walk upright, but it was decreed likewise that he should bend his back in tilling the ground; and those who fail to do so, shall not go unpunished for their disobedience. It is the absurd prohibition of this simple motion of the body alone, and the want of the wholesome and indispensable alternation of action and rest of the muscles, that contorts the spine, protrudes the breast, and entirely unhinges the finest form that has been subjected to this unnatural torture.

But the mere injunction, to keep the head up, and the shoulders back, however often it be repeated, is always, in consequence of its being unnatural, obeyed with reluctance, and evaded at every opportunity.* This uniform disobedience soon led to the

* *Dods on Contorted Spine.*

obvious device of an apparatus of strong ribbon braces, to pinion back the shoulders into the position so much desired by mothers anxious about the handsome figures of their children. From the facts which we have just stated, the effect of this injurious practice must be to weaken and destroy the tone of two important sets of muscles. It must, in the first place, keep at an unnatural stretch, those muscles which move the arms and shoulders forward, and, of course, must reduce the plumpness of the upper part of the chest, so indispensable to the elegance of shape, while it forces, at the same time, the breast bone to protrude below and press inwards above, impeding the free play of the lungs, tainting the breath, and leading directly to consumption. In the second place, it must keep in a most unnatural contraction, the muscles which move the arms and shoulders backwards; and as this contraction is never relaxed so long as the braces are worn, the muscles rapidly diminish in size and strength; and when the braces are laid aside, the shoulders must fall forward for want of support, and the deformity is, probably, rendered, from the continuance of the practice, almost, if not altogether, incurable.

From the want of motion also, and proper exercise in these muscles, the flow of blood to that part of the chest will be greatly diminished, and the ribs and bones of the chest—which, like the other parts of the body, depend on the blood for their nourish-

ment,*—must suffer for the want of their natural supply, and will become smaller,† and, from feebleness, will lose the fine arched form that constitutes the beauty of the female bust.—In a word, the chicken breast will ensue, with all its threatening consequences of cough and fatal consumption.

We hesitate not, therefore, to condemn braces of all kinds, as applied to restrain the motion of the shoulders; for they are certain to act in the way we have pointed out, and will, infallibly, produce distortion. We caution mothers, most strongly, not to be deceived by the apparent improvement which they produce when first put on, for this is the snare that has allured so many to torture their children into deformity.

Follow the example of the elegant Greeks, the ease and beauty of whose forms are so much admired. They put no unnatural straps on their young ladies: all their garments were easy, loose, and floating; and the effect was seen in their every limb, and their every motion. On the contrary, we can at once distinguish among thousands, from their stiff, starched, awkwardness, the poor creatures who have been pinioned and tortured by shoulder braces, and other wicked inventions, to turn beauty into deformity, and the finest figures into ricketty ugliness.

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* *Ward on the Spine*, p. 73.

† See *Medical Advice in Indigestion*, p. 16.

Dr. Macartney, of Dublin, says, "he has found the fine proportions of the antique statues only in the busts of women who had never worn such restraints on shape."*

STAYS AND CORSETS.

The bad consequences of the *pressure* of stays, or tight clothes of every kind, has already been pointed out above; but, besides the pressure on particular parts, and the injury consequent upon it, stiff stays act in the same manner as the shoulder braces, by preventing the natural and wholesome exercise of the muscles. A recent author† has well remarked, that it would be vain to attempt to dissuade ladies from the use of this pernicious article of dress; but, however much they may disregard themselves, they ought, certainly, to reject for their children, whatever shall be hurtful to them. Restraint, and particularly that of stays, is almost certain to distort the body during growth; while freedom of motion, in all its members, is the only certain preventive of deformity.

The unfettered Indian females, and even our own peasant girls, in many parts of the country, are strangers to twists in the shape, and distortions of the spine; and clearly, because they are unfettered

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* *Trans. of the Roy. Irish Academy, for* 1817.

† *Done on Contorted Spine*, p. 135.

by unnatural dress during their growth. They are, happily, unacquainted with the mechanical methods of producing deformity under the mistaken intention of preventing it. Unfortunately, the idea that the bodies of girls require support during their growth, has, by time and custom, become so firmly rooted in the minds of most mothers, that no persuasion will influence them to give up the practice. The stays which are constructed with whale-bone or steel, must strongly prevent the natural bending of the body. A girl, who has her body thus cased in such stiff materials, must suffer much injury from the forced position she is compelled to keep herself in, independant of the uneasiness she often manifests by shrugging and writhing her shoulders. We agree, therefore, with Dr. Dods, that as the muscles of the spine are kept by stiff stays in a constant state of contraction, and never suffered to relax,—they must become disorganized, and deformity of the spine will be produced; so that, instead of stays being a preventive of distortion, they evidently become a powerful assistant in its production.

It is an interesting fact, agreeing closely with the remarks we have made on the effects of exercise, that M. Portal, one of the most learned physicians of France, found the muscles of the back much larger, redder, and stronger, in women who had not worn stays, than in those who had used them. He observes also, that where women who have worn stays

from infancy, leave them off at a certain age, for greater comfort, they are sure to become distorted; for the muscles have been so weakened by want of use, that when the artificial props are removed, they are no longer capable of supporting the body.* We laugh at the folly of the Chinese ladies, who compress their feet till they are unable to walk, and at the Africans, who flatten their noses as an indispensable requisite of beauty; but we are still further from Nature, when we imagine that the female chest is not so elegant as we can make it by the confinement of stays; and Nature, accordingly, shows her resentment by rendering so many of our fashionable ladies, who thus incase themselves with steel or whalebone, deformed either in the chest, the shoulders, or the spine.†

Portal, however, allows of stays being occasionally worn by old people who are very feeble, and even by children; and he is supported in this by the great anatomist, Winslow. If stays, however, are worn, and it should be done with great caution, we must altogether prohibit the use of whalebone or steel as decidedly injurious. The materials should all be

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* "Dans un age avancé, les muscles du dos, à force d'avoir été comprimés, et d'être restés dans l'inaction, sont devenus incapables de maintenir le tronc en equilibre."—*Portal, sur Rachitisme.*

† *Dr. Gregory's Comparative View.*

elastic, so as to yield to every movement without compressing any part of the body. Dr. Dods recommends stays of fine white woollen stocking web, doubled, and cut into forms; instead of whalebone or steel, stripes of jean are stitched closely down on both sides, in the places where the whalebones are usually put. "These give," he says, "sufficient firmness, while the elastic web, between them, admits of the free motion of the body in all directions. The bosom part may be made as usual, entirely of jean, for the purpose of supporting the breasts." We should advise the addition of pieces of cat gut, sewed within the stripes of jean; or, perhaps, the new invented process of manufacturing Indian rubber may furnish something superior to any elastic material hitherto tried.

An instrument called *steel boddice*, is one of the most mischievous inventions of the stay-kind which ingenuity has yet devised. We sincerely hope that none of our readers will have the temerity to employ such a contrivance, as it will be almost certain to produce deformity, or increase it where it has already begun to appear. Those made to lengthen or shorten, which is considered as an improvement, are by far the most dangerous.

BACK BOARDS.

The multiplicity of novel instruments, of which we have now an almost endless variety, has, fortu-

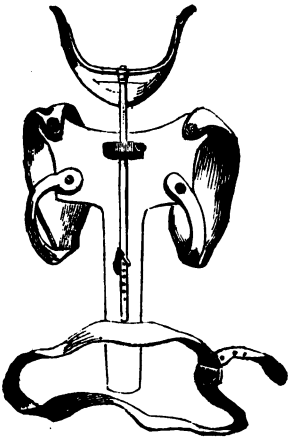
nately, rendered back boards rather unfashionable. They were employed for a similar purpose to braces and stays; namely, to keep the body both upright and immoveable, with the head elevated, and the shoulders pulled unnaturally backwards. It was also absurdly imagined that they enlarged the chest, and thereby prevented the attacks of consumption; but, from what we have said of the effects of braces, in producing chicken-breast, and flatness of the ribs, it must be evident that the back board must have a still more injurious effect of the same kind, although we leave entirely out of consideration, the torture which it always inflicts on the poor child that is forced to wear it. There cannot be a doubt but that back boards are a powerful instrument also, for promoting distortions and twists of the spine, by weakening the strength of the muscles by which the upright position of the body is chiefly supported.

COLLARS.

Several instruments, differing very considerably from each other, have been constructed under this name, and as they are usually attached to braces, stays, back boards, and similar machines, they fall naturally to be considered in this place. We quite agree with Dr. Dods, in saying, "that of all the contrivances which have been invented to torture children, and to produce or aggravate deformities, none

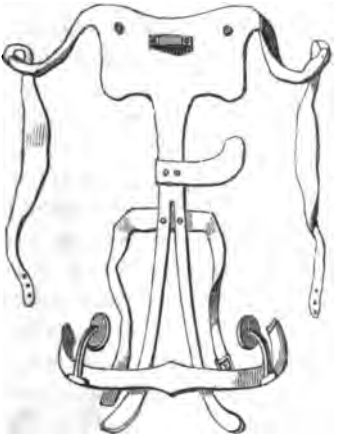
can rank higher in mischievous severity than collars.

COMMON BACK COLLAR.



This has been so long a fashionable apparatus, as to be considered, by many, as an indispensable part of a young lady's dress. As it acts chiefly on the mistaken and erroneous principle, which we have so fully exposed, and produces effects altogether contrary to those intended, we hope, that no mother, who wishes her daughters to have fine figures, will ever permit it to be worn. Instruments of this description may be seen in abundance, at the shops of the manufacturers of trusses; such as Mr. Callum's, in Long-acre.

THE LONDON COLLAR.



This instrument of torture and deformity is, we are sorry to say, in much repute in London, and is, to our astonishment, recommended by some men, who *ought* to know science better. The surgeon, indeed, who recommends such instruments, evidently wants to get rid of his patients by turning them over to instrument makers, who, ignorantly, attempt to press in by iron plates "the projecting shoulder, and the hip that is out," and tell the credulous mother, that it should not be considered as a machine, but as a pair of stays, in which ladies may go to court. It is, in our opinion, one of the best adapted instru-

ments for distorting the shoulders or spine, as well as for rendering incurable such as have become so. The pain and inconvenience of wearing it, is also great; and, in growing girls, it is soon quite unfitted to their size.

Another of the varieties of collars is described as a kind of crutch proportioned to the age of the child and the length of its neck, fastened to the fore part of the stays, and made to take the lower jaw somewhere about its angles. This is the more simple form: but sometimes a piece of sharp pointed steel is made use of, placed so immediately under the chin, that should the child attempt to bend its head or body in the least forwards, it must be inevitably wounded. Some again attach a kind of ridicule to the instrument: they fasten, upon the upper end of a steel rod, a carnation or some artificial flower stuck full of needles as a *nosegay*, leaving the poor child the choice of one of two evils: either to bear the agonies of an aching back, consequent to the continued erect position, or, in evading this, to prick itself with the needles concealed in this *bouquet ridicule*.

But however ludicrous such a practice may appear to those around, and whatever sport may be made of it by them, it is far from being harmless to the suffering child: and in point of torture, no tribunal could inflict a greater, with so little appearance of its being a cruelty. How unfit then is this instrument for a tender child, and how destructive

must its effects be to the muscles of its spine—and yet how general is its use!*

SKETCH OF THE IMPROVED HINKLEY COLLARS.

This fashionable variety of collar is intended to prevent twists and distortions of the spine, or to cure them when they have taken place, and consists of a crescent of iron, which goes round the small of the back, and rests upon the loins, by means of

* *Dods on the Spine*, p. 140.

cushions, or broad pads, with smaller ones to prevent them from slipping down from the bones. Other cushions are placed behind, pointing downwards, so that the whole of the loins and lower part of the back is cased with pads, and this must, by necessity, press upon the parts, to the great injury of the muscles, which, as we have seen, are always wasted and weakened by any sort of pressure. Instances are not rare of bad excoriations, and even ulcers, from the same cause.

This, however, bad as it may seem, is not the worst part of the instrument. Supported on the crescent, an iron rod, which is sometimes made to possess rotation, rises up along the back, terminating in a transverse plate, also of iron. This rests on the shoulder blades, and receives the notch of an iron rod, which bends over the head, and is furnished with an iron frame and straps, to go under the chin, and round the back part of the head. A screw, which is adapted to the top of this frame, serves to extend the body of the victim to whom this torturing instrument of deformity is applied. Some of these machines are of the weight of from seven to ten pounds, which must aggravate the uneasiness and inconvenience of the wearers.

This collar is usually worn during the day; but, by those who are anxious to carry the absurdity to its greatest height, its use is continued both day and night. The sufferings, however, which it occasions

are often intolerable, and the iron frame of the head has to be unstrapped. The ulcerations of the chin and other parts, which it produces, are the least of the evil; for the unnatural and painful extension of the back, kept up by the screw and the iron rod, overstretches and destroys the power and tone of the muscles, and whenever the machine is unstrapped, the body invariably sinks down into more helpless and pitiable deformity, than previous to its mischievous application. In fact, those unfortunate girls who have worn such collars for any length of time, can never afterwards do without their support, and must submit for life to all the pain and inconvenience of the ulcers produced by the iron fretting their loins and chin; yet do we find medical men advocating this hurtful contrivance.* When speaking of this injurious instrument, we must not omit to mention, as one of its destructive accompaniments, the

NECK SWING.

When there is a twist or distortion of the spine, this apparatus is employed to rack out the body to its utmost extent, before the collar is fixed. For this purpose only, the iron head-frame of the collar is fixed in its place by straps. A pulley and tackle, similar but smaller than what is used for removing bales of merchandise, is fixed to the centre of the

* See *Bampfield on the Spine*, p. 228.

ceiling, with the rope passing to the side wall, where it is hooked into the head frame, and the unfortunate victim is swung up by the wall, either altogether, or having the tip of the toes only resting on the floor. The victim of torture is kept in this hanging position so long as the executioner deems it requisite, with the exception of sometimes being lowered, as a matter of grace, to take breath. As soon as the back is supposed to have been sufficiently extended, the iron rod is fixed to the head frame, to remain till the next period of swinging. The iron rod retains the trunk of the body almost immoveable, and the whole of its weight is borne by the bands, which necessarily press hard against the chin and cheeks.

Were this not so notoriously common, in families and schools, it might be thought that we were describing the torturing apparatus of the inquisition, rather than a method invented, we doubt not, with good intentions, but, evidently, with lamentable ignorance,—for the improvement of the female figure, and as a remedy for deformities. So very ignorant, indeed, the inventor has been, that the force of the apparatus does not fall upon the back where the twist has taken place, but upon the neck; and by pulling asunder and stretching the joints of the neck, it very usually produces wry neck, or causes the head to fall on one side:* a just punishment,

* See *Dods on the Spine*, p. 182.

we think, for all who tamper with such instruments.

"If it be intended," says Bampfield, "to extend the lower half of the spinal column, swinging by the hands, with *weights appended to the feet!* will more particularly act upon it, whilst it will not produce the same effect upon the upper half of the spinal column. If it be the intention to stretch the upper half of the spine, swinging by the head will more particularly effect it."* We may fairly ask, whether this be trimming to public opinion, or sheer ignorance of science? The author half confesses to the first charge, and braves it out, page 142.

CRUTCHES.

The crutches, which are employed as supports to a weakened spine, are, usually, fixed to stays or corsets, resting upon the loins, and are concealed within the usual dress, or by wearing a shawl, a cloak, or a great coat over them. Sometimes only one crutch is used to prop the body on the side to which it bends; but it is more usual to have two to support the whole body. If used with great caution, they may in some cases, undoubtedly, be useful; but if too much trusted to, they will enfeeble the muscles of support, and increase the evil which they are intended to remedy.

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* See *Bampfield on the Spine*, p. 146.

APPARATUS PROPOSED BY MR. LLOYD.*

The crutch recommended by Mr. Lloyd is, while the patient is sitting, attached to each side of a smal chair, and is so constructed as to press in the most gentle manner against the ribs under the arm pit, with the arms hanging over it. The crutches should be contrived so that they may be raised or depressed at pleasure; and when necessary, though this seldom happens, one arm may be raised higher than the other. The heads of the crutches ought to be made to turn round. In walking, similar crutches are fixed to two pads, one above each loin, fixed by a soft leather strap before, and a slight spring behind. They should be made so as to be easily lengthened or shortened. They are so light as to be worn with comfort, rather than with inconvenience; the whole weight of the apparatus for a child twelve years old, being only a few ounces.

The crutches attached to the chair seem to be much the same with those described by Dr. Darwin, as "stuffed, moveable arms, for the purpose of suspending the weight of the body by cushions under the arm-pits, like the leading strings of infants."†

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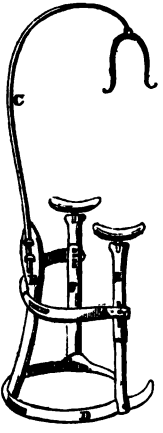
* See an excellent Treatise on Scrofula, by *Mr. Lloyd*, one of the Surgeons to St. Bartholomew's Hospital.

† *Darwin's Zoonomia*, vol. iii. p. 140.

APPARATUS PROPOSED BY MR. SHAW.



The girdle, D, is passed round the back of the loins, and the upright supports or crutches, E and F, may be lengthened or shortened at pleasure. The cushions of the crutches move on pivots, so that a girl, while wearing it, can easily turn the body round, and there is no difficulty in bending the body. To support the head and neck, the curved rod, C, with straps for the chin, is prefixed by the back plate, B, which is screwed to the girdle, and retained in its position by a thin steel plate, A, passing between the two supports. The difference of this instrument from others of a similar kind, is, that the chin straps only sustain the weight of the head, the chest being supported by the crutches.

COOPER'S EDUCATION CHAIRS.

Our philosophy teaches us, that if the seat or surface on which we rest, is small in proportion to the body, the chest will, after a time, either fall forward or to one side, unless we exert ourselves to a degree that is very fatiguing. If the seat, indeed, be, at the same time, so high that the feet do not rest fairly on the ground, but dangle under the chair, a forward position of the head is almost necessary to preserve the balance of the figure.* What then, according to these principles, are we to think of the tall, ludicrous, narrow-seated chairs, which are now so fashionable and go under the name, but as we charitably hope without the sanction, of Sir Astley Cooper. A better name would be *uneasy* chairs, for such they surely are. They are said to be intended, by some supposed operation on the spine, either to prevent distortions or to support the body. One thing is certain, that an uneasy posture of the body will, by irritation, infallibly aggravate a weakness in the back, and make a habit of stooping a matter of necessity, rather than a piece of awkwardness. Without taking for granted our opinion of this absurd chair, you may soon satisfy yourself of its truth, by getting a chair made of similar proportions to your size, and sitting on it for an hour or more, as young

* *Shaw*, p. 200.

girls are made to do in the Cooper chair; and if you are satisfied that it affords an easy and effectual support to your back, we shall give up our argument. The thing, however, requires only to be mentioned to be rejected by every body who will take the trouble to reflect; for, as it gives no support to the back, the young lady, after enduring her uneasy seat for a longer or a shorter time, is compelled to seek relief either by stooping forwards or bending to one side, the moment she escapes from it. It is, indeed, impossible to stoop while sitting on the chair, for as the feet do not reach the floor, any attempt to stoop would unbalance her, and throw her forward on her face. We need not again revert to what we have said above of the bad effects, and almost certain deformity, which follow the keeping of the body for a long time in an erect position.

Should it be asserted, as it sometimes is, that girls feel remarkably comfortable on those chairs, we reply with Mr. Shaw, that this is no argument in favour of their use; for habit may so reconcile the body to the uneasiness, as to make it little felt, as is often seen from the habitual use of all the instruments and machines which we have been considering.

The chair which affords most ease to the person, must, certainly, be the one that gives the most effectual support to parts that may be weak. The seat should be broad, deep, and scarcely higher than

the knees, the legs and thighs forming a right angle, when the whole foot rests on the floor. The back, instead of being made tall and upright, so as to throw the head forward, should have a gentle curve, corresponding to the natural curve of the spine. As a hard seat also may tend to injure the shape, where any weakness is manifested, it will be proper to have the seats either cushioned or made of elastic cane. Chairs of this description, or common drawing-room chairs, made low, on which girls might be allowed to sit in any position in which they felt easiest, would do more to prevent deformity than all the instruments which absurd ingenuity ever contrived. Nothing can be more injurious to the figure, during growth, nor be more detrimental to grace of form, than restraint upon position, and the mischievous anxiety to have girls always stiffened up into an erect attitude, as if they were cut in alabaster.

We cannot more strongly illustrate our arguments than by referring to the peculiarly erect attitude so universally remarkable among the Eastern nations, who are accustomed, as is well known, not to sit on straight-backed chairs, but on their hams, on a cushion, and they also usually wear a heavy turban. The erect figures of the Turkish and Armenian merchants, in London, must strike every observer. It is no less remarkable among our own tailors and shoemakers, who are habituated to an attitude the very contrary of that enjoined in fashionable education.

Mr. Shaw says, "that a tailor is, usually, quite a caricature of a strutting erect figure;" and the reason is, that the constant exercise of the muscles of the back, from the bent position of the muscles of the arm by sewing, and of the neck by jerking back the head at every stitch, increases their strength, and gives them greater power in supporting the body. The tailor, however, from using only one arm at his work, has, usually, the right shoulder out of drawing, or larger than the left; while the shoemaker, who uses both arms, has always finely formed shoulders. Watchmakers, clerks, and others who are constantly stooping without much motion of the muscles, do not obtain the same advantages of figure; but by stretching the muscles, weaken them, and, consequently, acquire a stoop for the same reason that young ladies who are braced, collared, and made to sit on Cooper's chairs, have their shape injured. "Were a mechanic," says Dr. Dods, "stored with all the improvements of his art, to sit down to contrive a machine that would be directly calculated to produce deformities in youth, I doubt whether he would be able to produce a more perfect one than we have in these chairs."

The common music stools are not so objectionable, for they have no upright back to compel the pupil to sit in a stiff position; their great fault is the want of this back, as an occasional rest, when the

muscles become wearied with exertion.

STOCKS.

The music stools naturally lead us to speak of this very blameable contrivance. In the case of young ladies, it seems that Nature is a delinquent worthy of the stocks; yet, strange to say, it is not Nature, the supposed assaulter, but young ladies, the assaulted, who actually suffer the disgrace of being set in the stocks. And is this to be endured; —is it to be suffered in merry England—that our daughters are to be condemned to the daily and disgraceful penance which has been banished from the criminal code of almost every parish in the empire?

The instrument itself is constructed of mahogany, or some other sort of wood, so as to turn the toes as much outwards as shall seem proper to the person who superintends its employment, which is chiefly during music lessons. That it may have the effect of turning the foot awry, and bringing the toes to an unnatural angle outwards, we do not deny; but it has a much greater chance to produce white swellings of the joints, *morbus cowarius*, and lameness from debility of the ancles. Dr. Dods has known the use of stocks, by weakening the muscles, produce the disastrous effect of making children walk on their ancles. Besides being employed during the music lesson, stocks are often used along with back boards

and collars, to force young ladies to maintain a stiff upright position for hours together, with their backs to a wall, &c. to the certain destruction of the muscular power which supports the body in the erect position.

INCLINED AND HORIZONTAL PLANES.

The proposal of Mr. Baynton to cure distortions of the spine by confinement for months or even years, with the face upwards upon a plane, has lately come into extensive fashion as a boarding school method of improving the shape and preventing deformities. The school room floor is often used for this purpose, on which the pupils are placed on their backs to learn their lessons, to the great detriment, among other things, of their eyes, which can scarcely fail to become distorted or weakened by this unnatural exercise. We need not, after what has been already so often stated, go into much detail of the evils of this method. The effects of it, indeed, must be quite the reverse of those intended; for the muscles of the back, which are indispensable to support the erect position, will be debilitated from want of exercise, while the general health cannot fail to suffer; and if rickets or scrofula be threatened, this will tend to develope them more speedily. This is not mere supposition and theory; for palsy, diseases of the heart, consumption, and other formidable disorders, have been clearly traced to this rigid and

unnatural confinement.* Instead of affording rest, it is extremely disagreeable and productive of distressing feelings, and so far from this being compensated by any advantage, it is almost uniformly hurtful.

These animadversions apply still more strongly to the inclined than to the horizontal plane; in so much as it is more uneasy to the victim practised upon, from its preventing comfortable rest. It is usual, along with the use of this, to have a hollow in the apparatus, to force the head backwards. This must not only injure the neck and upper part of the back, but will tend to drive an overflow of blood to the head, which may terminate in palsy, or epilepsy, as it actually has done in several instances. The weights which are sometimes applied to the feet, to extend the lower part of the body, cannot be too severely reprehended.

It cannot be too often repeated, as Mr. Shaw justly remarks, "that the spine of the most delicate girl will not suffer by the upright position while she continues to be actively exercised;" but if she be stretched inactively on a reclining bed for many months, nothing but contraction of the muscles can be expected, along with confirmed ill health. The position for enjoying comfortable and strengthening rest, is that in which the head and body are bent

* See *Bampfield*, p. 102. *Shaw*, p. 158. *Dods*, p. 146.

a little forwards, the knees drawn upwards, and the legs carried towards the back part of the thighs, while the arms, being also bent, occupy the space between the head and the knees. This position, however, we agree with Dr. Dods in saying, will, if long continued, either asleep or awake, become irksome and painful, as will any other position, if not changed for some other, whenever uneasiness is felt. Since this is natural and right then,—what are we to think of the mother, the nurse, or the governess, who watches most anxiously to prevent her girls from sleeping in this position? And, what can a recent author mean, by saying, that "particular care ought to be taken that she should not lie crooked in bed?"

We do not object to either the horizontal or the inclined bed, sofa, or couch, provided they are not abused, and are limited to such periods as may give necessary rest and be comfortable. Beyond this, we should decidedly object to them. It may be necessary, however, to remark, that it has been long a rule, with the most distinguished of the faculty, to prohibit lying on the back in all cases of sickness. Why Mr. Baynton, Mr. Lloyd, Mr. Ward, Dr. Harrison, and others, should adopt a different practice in cases of spinal deformity, we are at a loss to conceive. Mr. Bampfield has, in our opinion, set the question at rest, in his forcible reasons for preferring lying on the face, by which the spine is not only rendered

more straight the instant the position is assumed, while the weight of the body is entirely taken off from it, but, in endeavouring to lie comfortably, the muscles are slightly exercised, and, consequently, strengthened. The breast bone also, instead of being protruded below, as in lying on the back, is drawn rather inwards, to the improvement of the form of the chest.

WINDLASS, STRETCHING CHAIR, AND PRESS.

When actual deformity has been produced by any of the very blameable methods which we have discussed, recourse is often had to others still more objectionable. "Extension," says a late writer, "may be employed as the patient lies in bed, either by machinery made for the purpose, on the principle of a windlass, or by one assistant pulling at the feet, whilst another pulls by grasping the wrists, or under the arm pits; or, where assistants are not at hand, the patient may grasp the bed posts, and pull in opposition to an assistant who pulls the legs." "When the machinist," says Mr. Shaw, "talks of the efficacy of his instruments, we cannot but fear that dangerous consequences may result from the powerful engines of which he makes use. The stretching chair is sufficient to alarm us for the safety of any young lady who may enter the machinist's room; for the windlass, by which the crane is elevated, and to which the head is attached, is so powerful, that it

might almost tear the head from the body." When the windlass is used, the straps of the collar are directed to be fastened round the head, to fix it, and the chin to be supported on a small pillow, whilst cords attached to the windlass, at the foot of the couch, are to be fastened round the ancles, defended from the effects of pressure, by being encircled in thick leather, and in this state, extension of the spine is put in force.* Melancholy as this is, it is surpassed by the following authentic histories.

Madame de Montmorency applied to M. Ranchin, of Montpellier, with a deformity of the back, which he pronounced, as many of our English machinists and charlatans would have done, to be a dislocation. Being foiled in his attempts to reduce the bones into their place, he proposed to try the effects of a linen press;—the unfortunate lady submitted, and was squeezed by the screw, between the two beams, till she almost ceased to breathe, and the operators were forced to desist. Determined, however, not to give up the attempt, she submitted a second time, to the application of a machine employed to raise carriage wheels when bemired, which was fixed against a wall, and the lady held by the shoulders by two robust men, while the hook was raised till pain compelled her to entreat to be released.†

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* *Bampfield*, p. 147.

† *Portal, Mem. de l'Academie des Sciences.*

Colonel Sibthorpe, by a fall, followed by palsy of the left arm, was supposed by a London physician to have dislocated his spine,* and subjected to treatment little less barbarous than Madame de Montmorency, till, during the pulling and pressing, something cracked, and such pain was felt as gave just reason to think that one of the ribs was broken. The Colonel died within four months, and, very probably, of the injuries which he received from this ignorant and cruel treatment. No dislocation was found, upon opening the body.†

To us it appears not a little strange that Mr. Shaw, who so very properly exposes this objectionable treatment, should himself propose a machine for stretching the body by means of weights, while "the shoulders are fixed by cords," and states, as a recommendation, that "part of the spine is more effectually stretched in this way than it can be by a collar, or even by swinging the body."‡ Mr. Shaw's excuse that the weights force the muscles to act in opposition to them, and thus afford a sort of wholesome exercise, appears to us to be quite untenable; for if the weights are applied for any length of time,

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* See this Physician's own statement, *Med. and Phys. Journ.* No. 289.

† See *Swan on the Nervous System.*

‡ *Shaw on the Spine*, pp. 241 and 246.

they must overstretch the muscles, and weaken rather than strengthen them.

3.—MECHANICAL EXERCISES FOR IMPROVING THE FIGURE.

We gladly escape from the very objectionable contrivances which we have been considering, to the more rational and philosophical methods, which are, we are happy to say, fast gaining ground in the fashionable world, while those which we have deprecated are becoming obsolete, in consequence of the evident evils produced by their use. We hope the day is not far distant when braces, stiff stays, collars, neck swings, and Cooper's chairs, will only be known as matters of antiquarian research, and when rational science will preside in all our families and schools, and healthful exercise will train up the youthful and delicate bodies of our daughters into elegance of shape and figure.

CARRYING WEIGHTS ON THE HEAD, AS PROPOSED BY M. ANDRY, MESSRS. GRANT, WILSON, &c.

We have mentioned above the remarkably erect figure of Turks and other Orientals, as probably arising, in part, from their wearing a heavy turban; and the same remark having been made in France, a century ago, by M. Andry, with respect to the erect attitude of milk maids, who carried small pails on their head, he applied the principle to the improve-

ment of the shape. M. Andry's plan, however, consisted in exercising the muscles of the neck and back, in balancing a weight, such as a powder-box, on the fore part of the head, where it would be most apt to fall; and this balancing he judiciously recommends as a game in which children may be interested by emulation.*

A similar, though more objectionable method was contrived by the late Mr. Grant, of Bath, taken, it is said, from observing the erect figures of the boys who carry sand on their head. This was communicated to the late Mr. Wilson, who put it in practice, and advocated it in his published lectures.† He explains the principle by a simple experiment. Hold up your fore finger, bend it a little, and place a weight of a pound or two upon its top. In this case the finger must either bend completely, or straighten itself to support the weight perpendicularly. In the same way, if the spine be bent or twisted, and a weight be put upon the head, it will instinctively erect and straighten itself to support it, and if this is often repeated, it must invigorate by the exercise of the erecting muscles. It is a very different thing, however, when there is a permanent bend in the spine from rickets or scrofula; for then the weight must do harm, though it is often very

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* See *Andry's Orthopædia.*

† *Wilson on the Bones, and on the Spine.*

absurdly employed. If the finger in the above experiment were so deformed, the joint stiff and immoveable, it could not raise the weight; and yet it is imagined that the spine in the same circumstances will do it.*

Mr. Wilson gives the following directions: "A small footstool, covered with a flat cushion, being inverted, may be placed on the patient's head; the hollow between the feet of the stool will allow of some substance, varying between four and ten pounds in weight, for it may be necessary to increase it to the last amount, although much less is generally sufficient to be placed in it; the patient should be instructed to raise this with both arms, and support it on the crown of her head, elevating the spine at the same time towards the stool, while held over the head; she then, preserving the most erect attitude she can, should walk in a straight line, as soldiers are taught to march, and for a time not exceeding ten minutes: this should be repeated occasionally during the day. By degrees she will learn to balance the weight, and this occasional exertion, giving the muscles their true action, will straighten the spine much more effectually and sooner than any mechanical instrument. The patient should be frequently reminded by her attendants to sit upright, and the momentary attempt to do this, even if the attitude

* *Dods, p.* 203.

cannot be long persevered in, will prove useful in forwarding the recovery."

Mr. Wilson, however, in referring to the upright attitude of those who are accustomed to carry weights on the head, forgets the very material circumstance that when they sit down to rest, they are not reminded "to sit upright," but choose a low seat and bend their bodies forward, to relax the muscles of the spine and neck, which have been fatigued by maintaining the erect position. This material circumstance Mr. Grant also overlooked in his observation of the sand bags, and accordingly only practised half of the genuine remedy—namely, the exercise without the rest. Other very serious evils have arisen from the adoption of the practice by ignorant persons, who imagine that, the greater the weight or the more the spine is loaded, the greater will be the benefit produced; but the observation of the deformed loins of the Covent Garden market women, and of men who carry large baskets of china on their heads, will show the danger of this notion. Mr. Shaw justly remarks, that if a few pounds' weight be not carefully adjusted on a particular part of the head, the muscles of the fore part of the neck will be brought into too great action, and will be enlarged to a disproportionate size. Dr. Jarrold does not seem to have attended to these distinctions.*

* *Jarrold on the Spine*, p. 111.

DRAWING WEIGHTS, AS PROPOSED BY MR. WARD.

According to the principles which we have advocated in this work, of strengthening the muscles by alternate exercise and rest, Mr. Ward has proposed several methods which are no less simple and ingenious than, as it appears to us, salutary. "One of the methods," says Mr. Ward, "that I employ for this purpose, and the detail of which will place the subject in the clearest point of view, is the following—a weight appended to a cord is passed over a pulley, and the other extremity, having a strap attached to it, is fastened round the patient's head; the pelvis being fixed, the patient is directed to raise the weight by drawing the head and trunk backwards, and to repeat this effort until fatigue is produced. The frequency of repetition of this exercise of the muscles, and the weight of the body to be raised, must, of course, depend on the patient's strength. After each effort, it is advisable to take rest, by lying down on a couch or sofa, in order that the muscles may not be placed on the stretch and thus prevented from recovering themselves."

COUCH EXERCISES, AS PROPOSED BY MR. BAMPFIELD.

We think that there is still great room for the researches of ingenuity in devising exercises of this kind. The ancient Romans were acquainted with several methods of this couch exercise, as we learn

from Celsus* and Mercurialis;† but as these methods are now lost, we must content ourselves with such modern inventions as that of Mr. Bampfield, though we do not entirely approve of it. "Let a couch be made," says our author, "with short bed-posts, and without any back or end boards; to one or both ends of the couch, let a standard or rod be fastened in the middle, of about five or six feet high. The standard should be made to take off and fix on by means of screw fastenings, or by being passed through brackets. Let one sheave or pulley be let into the upper part of the standard, and another lower down and much nearer to the surface of the couch, through which, reeve or pass silken or hempen cords with hooks at one end to suspend weights upon, and with loops at the other, through which a round roller of wood, 24 inches long, may be passed for the hands to grasp. Let the patient take hold of this handle passed through the loop of each cord alternately, whilst he places his feet against the standard or a cross piece of wood at the bottom of the couch, and by pulling the weights up and letting them fall, he can perform flexion and extension of the spinal muscles by bending forwards the body and raising it, and can bring into action the

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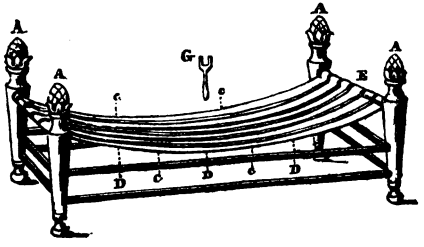
* *Celsus, De Medicinâ*, lib. ii. c. 15.

† *Mercurialis*, lib. iii. c. 12. See also *Morgagni*, lib. ii. *De Vulneribus*, c. 8.

muscles of the neck, by inclining the head backwards and forwards, whilst he at the same time exercises the muscles of the upper and lower extremities, and of those which move the scapulæ and clavicles; in fact, all the locomotive muscles of the body are called into action by this exercise. If the lower cord and pulley be employed, it enables the patient to stoop more forward. The muscles of the spine and neck alone can be exercised in the following manner without the aid of the arms. Let two bands of vellum be passed round the head, one horizontally, the other vertically; let a loop or hook be attached to the fore and back part of the horizontal band, let the cord of the upper pulley be attached to the back part, and the spinal and cervical muscles can be put into exertion by performing flexion and extension of the spinal column."

COUCH PROPOSED BY DR. DODS.



The author, agreeably to the principles above laid down, that alternate exertion and relaxation are ne-

cessary for invigorating the muscles, proposes that the elastic couch exhibited in the sketch should be used for relaxation. A, the frame, whose height is two feet three inches; width, two feet two inches; and length, six feet six inches, or seven feet. B, a moveable roller, with a small wheel and catch at *a*, which is turned by the handle C at *b*. D, thin laths of wood, two inches broad, slung by means of hanks of small twine, *c c c c*, and fastened by straps to the rollers B E. F, posts with tester, which screw into the frame at A. The object to be obtained from the use of this couch, is rest, combined with relaxation of the spinal muscles, and change of position. When it is used, there is placed upon the laths a hair mattress, two, or two inches and a half thick, on which the patient lies down upon her back, and the position of the body is altered by turning round the roller B at the end of the couch to which the laths are strapped. The posts and tester shewn by the dotted lines are only for convenience, should it be wished to convert the couch into a bed at night. In this case it is to be made after the manner of a common bed, with pillows, &c. During the day the posts are unscrewed and laid aside.

As it is extremely difficult to persuade patients (who, in this disorder, are always uncommonly indolent and listless), to persevere in the performance of any one exercise, it becomes requisite to devise a variety for them.

COUCH PROPOSED BY MR. SHAW.

"Upon the moveable inclined plane A A A, there are placed three boards, B, C, D. C, which is to be very short, not more than ten inches long, (it need not be on rollers;) D, to be about twelve inches, upon which is to be fixed a cushion, or the socket that is generally used on the common inclined plane, for the head to lie in. This board is to be moveable. The patient lies on the three boards, the hips being on B, the shoulders on C, and the head on D; silk cords are to be brought from each side of the sofa-frame, and to be fixed to loops that are fastened behind and before to the patient's corset (without whale-bone.) The weight G is to be attached to B, and the weight H to D. It is evident that the board B will fall, in consequence of the heaviness of the body, and of its being pulled by the weight H.

When it falls, the portion of the spine between the shoulders (which are fixed by cords) and the pelvis must be operated upon. The lumbar part of the spine is more effectually stretched in this way than it can be by a collar, or even by swinging the body; for the force acts gradually and constantly, which experience in the reduction of dislocations has proved to be the best way of operating upon muscles and ligaments. There is also another advantage attending this mode of stretching the spine; the muscles are not only elongated, but at the same time strengthened by the patient instinctively using them, in opposition to the force acting against them. However, I do not trust to this instinctive action, but direct the patient to exert herself occasionally, so as to endeavonr to pull the board B towards C."

By means of this apparatus a number of useful and amusing exercises may be performed; but the variations may be safely left to those who employ it. With a few additions, for example, *rowing* may be imitated. But here it ought to be mentioned, that rowing, unless done in a particular manner, is not a proper exercise for a person with a lateral curvature of the spine. In proof of this we may observe, that although the boatmen on the Thames are very powerful men, they are very often round shouldered and stoop.

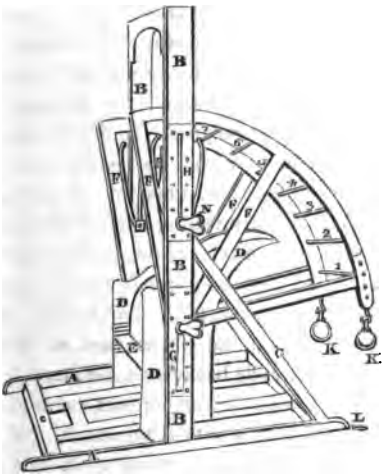
WEIGHTS AND LEVERS, AS PROPOSED BY MR. SHAW.

Our only fear respecting this ingenious contrivance is, that, like many other good things, it may be abused, and be made to produce an effect quite the contrary of the one intended. There cannot be a doubt that, when it is used with proper intervals of rest, it will be productive of benefit. The apparatus, as seen in the sketch, consists of an upright rod, four or five feet high, and similar to the pole of a common fire-screen. In the upper part of the rod, a small wheel is placed, and about sixteen inches below the wheel, a lever eleven inches long is *let in*, and moves upon a pin; the opening in the rod being so cut as to permit the lever to rise and fall. To the end of the lever, a certain weight is attached. This apparatus

may be fixed by a small wooden vice to the table, directly opposite to the girl as she sits at her lesson, or at work. A riband, with a loop or ring in front, is to be put round her head; a silk cord is to be attached to the loop, and is then to be carried over the wheel in the rod, and to be fixed to the end of the lever, the cord being so adapted that, when the girl is sitting quite erect, the lever is raised as high as possible. As long as she sits erect, the lever being kept up, there will scarcely be any weight dragging upon the head; but if she stoops or lets the spine fall to one side, then the cord is relaxed and the lever falls; and, by the consequent increase of the power of the weight, the force becomes considerable. To relieve herself from the constant pull, she is obliged to sit upright; and by the exertion to counteract the force of the weight when it falls low on the scale, the muscles, by which the spine is naturally kept erect, are much strengthened. This instrument is very manageable; by moving the cord back upon the lever, the force or weight will be much increased, while, by keeping the cord attached to the end of the lever, and moving back the weight, the force will be diminished. The adjoining vignette will assist in the demonstration of the uses of the apparatus. The cord passes over the pulley, and is attached to the end of the lever, which moves upon a pin in the upright rod. To the end of the lever, the weight is hung. It is evident that as long as

the lever is in the first position, there will be little difficulty in supporting the weight by pulling upon the cord; but as the lever falls to the next position, the force required will be in proportion to the distance it reaches down the scale. Without increasing the size of the weight, the force may be greatly augmented by moving the cord back upon the lever; and if we wish to diminish the force, it is only necessary to change the place of the weight.

CHEST DILATOR OF MR. E. JUKES.



This is a formidable looking apparatus, but, we doubt not, it may be made beneficial, if care is taken

not to abuse it. The apparatus consists of a chair with a convex back, upon which the patient sits and reclines backwards, whilst he exercises a moveable quadrant rolling upon two pivots, fixed to a pillar on each side of the chair. At the depending extremity of the quadrant two weights are appended, which allow it to be moved with greater or less effort, in proportion to their quantity, which is made to vary according to circumstances, or to suit the strength, age, and increasing capability of the patient, or any particular view of the practitioner. A, the frame. B, the supporting pillars. C, one of the braces. D, the chair. E, the moveable seat of the chair. F, the quadrant. G, iron plates for receiving the pivots of the quadrant. H, iron plates for the springs. I, the coil springs. K, the weights. L, thumb-screws for screwing the frame to the floor. M, nuts at the axis of the quadrant. N, nuts for the coil springs. 1, 2, 3, 4, 5, 6, the connecting bars of the quadrant.

To exercise this machine, the patient seats herself in the chair, and fixes herself firmly in her seat by placing her feet beneath the foot board: then reclining herself upon the convex back of the chair, which carries the body backwards, she stretches back her arms and grasps the furthermost connecting bar of the quadrant that is within her reach, and makes an effort to pull the latter round upon its axis. If the strength used be sufficient to elevate the weights, the patient brings her arms to the perpendicular

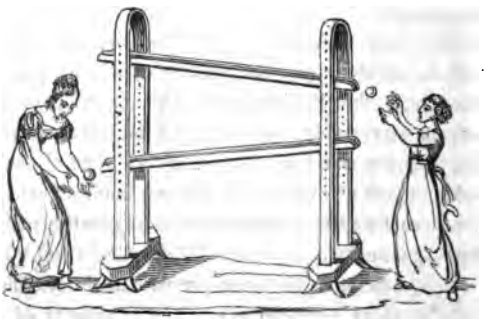
position, the quadrant rises and describes a circular motion equal to one half of its arc, and striking upon the recoil-springs, its immediate retrocession is occasioned, and the patient's arms are brought, by the gravity of the weights, back to their original position. The patient again directs her efforts to bring the quadrant forward, when the same effects take place, and in the continuation of these alternate motions consists the use and applicability of the apparatus. The machine is constructed in such a manner, that every part is moveable, so as to be capable of being adapted to the stature and age of the patient.

The body reclines upon the chair, so that no task is imposed upon the muscles of supporting the back, and this inclination of the spine backwards proves serviceable, by taking off all pressure from the anterior portions, in a position that allows of some degree of exercise of the trunk and chest. In counteracting likewise distorted configurations of the chest, particularly that called "chicken breast," it is not less efficient; the arms are stretched backwards, and the spine extended upon the convexity of the chair, which necessarily brings the body into a state directly the reverse of that which accompanies this deformity, in which there is generally an inclination of the body forwards. The extension of the arms puts these muscles and most of the chest upon the stretch, brings the ribs outwards, and, whilst it lessens

the projection of the breast bone, increases the diameter of the chest from side to side.

In advanced stages of deformity, the spine could not be bent so as to recline upon this chair, and it is, therefore, not available in such cases. The principal action of the arms in this exercise is that of rotation of the shoulder joints, and, consequently, mostly exercises those muscles employed in their rotation.

BALL EXERCISE, AS PROPOSED BY DR. DODS.



Two graduated stands, whose height is five feet six inches. Two shoots, five feet long, and three inches wide, supported by iron pins. Two balls made of light wood, one inch and a half in diameter, covered with leather.

The mode of using exercise by means of the above described frame is as follows:—The patient stands

at the end where the shoots diverge, and an attendant at the other. The patient then bends the body forwards to receive, with both hands, the ball from the shoot, while the attendant receives the other ball from the shoot. The patient then raises the body to the erect position, and, with both hands, throws the ball gently into the shoot, while the attendant drops the other ball into the shoot, to be again caught by the patient.

It will be seen that the object to be obtained by this contrivance is the flexion and extension of the spine or the alternate contraction and relaxation of its muscles; and as the upright stands are pierced by a number of holes, the extent of the flexion of the body may be regulated at pleasure according to the circumstances of the case, by raising or lowering the undermost shoot at its extremity D, and shifting the iron pin which supports it.

TRAINING, FRICTION, AND SHAMPOOING.

The diet and exercise directed below for training the weak and nervous to strength, we deem indispensable in all cases in which prevention of deformity is thought necessary, as well as when a powerful remedy is wanted, independent of the beauty it infallibly imparts to the complexion.

Friction should never be omitted to the parts which seem to be weak or debilitated, as this has an extraordinary power of enlarging and strengthening

wasted muscles, by bringing to them an increased current of nourishing blood. Friction with the hand is, perhaps, better than with the flesh brush; and in order to prevent the skin from being fretted, hair-powder may be used, or

DR. DODS' FRICTION OIL.

Take half a pint of neat's foot oil, coloured with alkanet root;
a quarter of an ounce of palm oil.
Mix, and preserve for use.*

Shampooing and manipulation act precisely on the same principle as friction, namely, by increasing the current of the blood to the parts shampooed, and, of course, strengthening them by the additional nourishment thence derived. It is highly necessary, however, that too much manual force be not exerted, as serious injuries have in this manner been occasionally produced, even to the endangering of life,† by empirics, charlatans, and also, we fear, by some regular practitioners, who act upon theory rather than fact, as in the melancholy case of Colonel Sibthorpe, mentioned above.

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* We caution our readers not to be taken in with a preparation sold as a certain cure for deformed spines, as it is nothing more than oil of turpentine sold with a mysterious air and at a high price.

† See *Lloyd on Scrofula*, p. 263.

4. FIRST HINTS OF DEFORMITY.

It would be extremely easy for us to give minute descriptions of the different species and varieties of deformity which are so apt, from the causes we have enumerated, to affect young ladies during growth, chiefly between the age of eight or nine, and fifteen or sixteen. Parents are apt to ascribe most deformities to accident or injury, but the causes stated above are much more commonly the origin. The disorder, for the most part, approaches slowly and insidiously, and at first attracts little attention. Prior to any twist in the spine, there is considerable decrease of muscular power, and a feeling of general weariness and fatigue from the slightest exertion, with listless inactivity, and a propensity to lounge and loll about, quite unsuitable to the activity characteristic of youth. There is a disposition to stoop, and the manners become careless, ungraceful, and spiritless. This being thought to arise from awkwardness and inattention, the poor child is both chastised and encased in pernicious machines, which increase the evil. The symptoms do not arise from awkwardness, but from inability to keep the body erect, in consequence of the wasting of the muscles. If the child under such circumstances be examined, the muscles of the back, which support the spine, will be found so wasted as to astonish those who have only judged of the case from the healthy look of the face. The

great emaciation over the ribs will enable you to number them, the knobs of the spine project from the surface, and the shoulder blades are elevated and prominent, while the flesh above them, and between them and the neck, is considerably increased and thickened, and is more than naturally firm and elastic, compared with the flesh on the chest. The chest, in the mean time, becomes contracted and narrow, while the breast bone is protruded at its lower extremity, and the muscles over it are meagre and emaciated.

The collar bones are also found to be more bent than natural, or one is flat and the other arched, while one shoulder is pointed forward and the other lengthened, so as to let the dress slip over it and leave it bare. It ought, indeed, always to excite suspicion when it requires more than usual care to keep the dress from sliding over the shoulder.* The chin is unnaturally raised from the breast, and twisted a little to the right; or, when this is not the case, the head falls forward, while the neck appears rather to fall to one side.

When any of these circumstances are observable, it will be of the utmost importance to make a strict examination into the state of the spine, to ascertain whether it has bent to one side or has a tendency to curvature, in order that measures may be speedily

* *Jarrold on the Spine*, p. 99.

taken to avert the consequences, without trusting to the delusive hope too often held out by surgeons, that the young lady will outgrow it by paying attention to her general health. On the contrary, as Mr. Shaw demonstrates, if a girl grow an inch or two in three months, that addition will only add to the twist instead of improving her figure, if nothing is done in the mean time to remedy it.

It is no less improper to neglect slight deformities of the spine, under the mistaken notion that they may afterwards be concealed by dress; for no means, however artful or ingenious, will do this successfully.* A perfectly straight spine communicates to the motions, not only of the body, but of the limbs, an easy grace, which secretly and irresistibly influences our judgment of the figure, in the same manner as the countenance intuitively determines our opinion of character.

In order to ascertain the state of the spine, it will be necessary to mark the skin along the knobs of the back bone with ink or rouge, or by rubbing it pretty roughly till it show a blush of red,† which is preferable, inasmuch as it will discover whether there is any place tender or painful along the spine. A plummet is then to be dropped from the top of the head along the back, while the girl stands as erect

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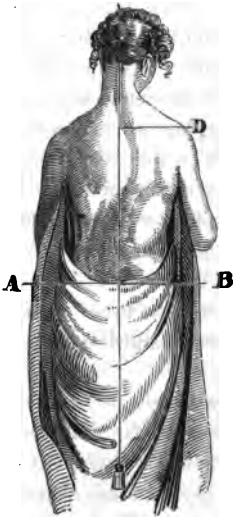
* *Dr. Macartney, in Trans. Roy. Irish Academy, for* 1817.

† *Shaw*, p. 112.

as she can, with both feet firmly and evenly on the floor. If the spine is twisted, the plummet will show it in the form of an italic *f*, according to the following

SKETCH BY MR. SHAW.



Dr. Macartney, in his excellent paper on Deformities, in the Transactions of the Royal Irish Academy, for 1817, recommends the muscles of the spine to be fatigued previous to the examination, in order to make the spine bend more readily towards the weaker side.

WRY-NECK, and other unnatural twists, may often be successfully remedied according to the same principles. A surgical operation may sometimes be tried with advantage in wry-neck.*

BEST TREATMENT.

Besides the various methods for preventing and curing deformities, which we have so minutely examined and scrutinized above, it is also necessary to attend most carefully to the stomach and bowels, as the prevalence of acidity or of costiveness will render all our other exertions useless. We have not space to enter at any length upon the more strictly medical treatment; but we cannot dismiss this part of the subject without impressing on your mind the two circumstances which we have just mentioned. To prevent costiveness, we should recommend

MR. ABERNETHY'S LAXATIVE PILLS.

Take twenty grains of powder of jalap;
ten grains of blue pill mass;
a sufficient quantity of syrup of buckthorn;

Mix, and divide into six pills; one every second or third night, and a wine glass full of senna tea on the morning following.

The acidity which gives rise to sour belchings, heart-burn, gripes, disordered bowels, and, fre-

* See *DELPECH Chirurgie Clinique de Montpelier.*

quently, to unnatural hunger constantly returning and never satisfied, is to be combatted by chemically destroying the acid through the means of some alkali, such as magnesia, potass, soda, chalk, or lime-water.* One of the best forms for this purpose we shall here translate from the German. We call it,

DR. WENDT'S REMEDY FOR ACIDITIES.

Take from two to three grains of magistery of bismuth;
four grains of magnesia;
half a grain of ipecacuanha powder;
ten grains of cinnamon powder.

Mix, and divide into twelve papers; one to be taken three or four times a day.

A new medicine, iodine, has lately been much celebrated in such cases, but it is by no means safe to tamper much with it in young and weakly habits. We shall introduce it, as we proceed, for a very different purpose. In the mean time, we shall conclude this part of our subject by giving you the receipt for a medicine with which Dr. Jarrold, of Manchester, says he has successfully checked the approaches of spinal distortion, and which we shall therefore denominate

* See *Oracle of Health*, vol. i. p. 183.

DR. JARROLD'S SPINAL PILLS.*

Take one drachm of burnt sponge,†
fifty grains of carbonate of soda,
Mix, and divide into twenty pills; three to be taken for a dose, morning and evening; and the bowels kept open by laxatives, for six weeks or two months.

To walk much abroad in the open air, to avoid damp and moisture, and, in a word, to attend to the diet and exercise prescribed under training, are indispensable.

5. CORPULENCE AND LEANNESS.

Corpulence is a disease which not unfrequently proves fatal, when it increases so much as to press upon the blood vessels, and to prevent the free play of the lungs. It is always so far a disease as it exceeds the ordinary standard, the best test of which is, its attracting attention and calling forth remark. Fat, like the hair or the nails, is totally insensible, and may be cut into without producing the least pain; a circumstance which, taken with others, proves that fat is nothing more than superfluous

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* *Jarrold on the Spine*, p. 124.

† The burnt sponge is thought to contain iodine.—*Ed. Phil. Journ.*

material, stored up to meet a future demand for nourishment. Dr. Darwin, very justly, we think, calls corpulence a dropsy of fat; and it, therefore, ought to be as anxiously remedied, as the common dropsy of water, for it is no less an enemy to health, than to the beauty of the figure. This, at least, is the common European taste; and we must take that as a standard, rather than the African style of beauty, or even than the very peculiar fancy which has been entertained of "fat, fair, and forty." Rubens, and most Dutchmen, exhibit a similar taste.

REMEDIES FOR CORPULENCE.

The first thing to be ascertained, in order to discover a proper remedy, is the cause which has produced the affection. The most common causes are indolence and luxurious living, indulgence in sleep on a soft bed, and vacuity of mind, from having nothing to do or to think about. The ancients were well aware of this, when they described Minerva Pinguis as an indolent goddess; and Lord Chesterfield and Mr. Burke* make a soft disposition and corpulence inseparable companions. Nothing, therefore, will sooner reduce unwieldy corpulence, the deformity of a pot-belly, as it is called, or the squat porky shape of the body, than activity of both body

* *Reflections on the French Revolution.*

and mind, particularly the latter, and short sleep on a hard mattress.

Besides this, Dr. Darwin* recommends putting a proper bandage round the belly, so that it can be tightened and relaxed with ease, such as a tight belt or corset, with a double row of buttons. This removes one principal cause of corpulence, which is the looseness of the skin. Tight drawers, supported by elastic braces over the shoulders, have, also, been found useful, by ladies who have a tendency to corpulence. The omission of one meal in the course of the day, such as supper, will, also, be useful; as, by decreasing the supply of food, the superfluous fat, stored up under the skin, will be drawn upon by the blood vessels, to make up for the deficiency, and the fat will thus be reduced. The less drink or soup, the better; for drink, particularly malt liquor, is one very common cause of corpulence. Cream ought, also, to be religiously abstained from, and all preparations from it; for nothing is more apt to produce corpulence. Dr. Darwin recommends salt, or salted meat, which has a tendency to carry off fat by perspiration. Soda water and soap have, also, been recommended, but upon no very certain evidence of their efficacy.

It is to be remarked, that women are particularly liable to become corpulent, and lose their

* *Darwin's Zoonomia*, I., 2. 3. 17.

fineness of form, about the critical age of forty-eight; or at any other age, if female irregularities occur. The first must be remedied by cautious blood-letting and purgatives; the latter, by the great discovery lately made in Italy by Dr. Lavagna,* which we shall introduce in its proper place in this work, as a sovereign improver of beauty, and remedy for barrenness. We shall next take notice of certain

DANGEROUS REMEDIES FOR CORPULENCE.

Those who are admirers of dwarfed lap dogs are aware, that, by giving them brandy, or any other strong spirits, in the morning, fasting, they can stint their growth, and insure leanness. The same treatment has been pursued by ladies affected with corpulency; but at the risk of health, and, perhaps, of life. We must speak no less strongly against the most common, perhaps, of all the remedies for corpulence—vinegar. Dr. Darwin justly remarks, that it is much more likely to injure the health than to reduce corpulence; and Wadd, in his book on corpulence, is inclined to agree with old Zacutus, that vinegar is much safer, and, perhaps, no less effectual, when applied externally,† with long continued friction, than when drunk at the risk of

* See *Oracle of Health*, vol. i. p. 274.

† See *Zacutus de Obesitate Nimiâ.*

health. Friction is itself a powerful remedy for corpulence, and ought never to be omitted. As a beacon to those who may be induced, by popular prescription, to try the internal use of vinegar, we shall give one case, out of many, of its dangerous effects.

A young married lady of Lombardy being threatened with corpulence, and afraid of losing her fine figure, took much exercise, diminished her food, and drank, daily, a large quantity of vinegar. After persevering in this plan for about a year, she became seriously affected with indigestion, and other stomach complaints; with hysteria, dry cough, burning heat, acute pain in the left side of the chest, difficulty of breathing, and spitting of blood. These symptoms increased, till slow fever and exhausting night perspirations came on, accompanied with copious expectoration, indicating so clearly, as it was thought, the last stage of consumption, that she was given up by the attending physicians. The celebrated Professor Frank was called in; and, after learning that the disease had been brought on by acids, taken to keep down corpulence, he came to the conclusion, that it was not the usual form of consumption, but decline from lack of nourishment. By prescribing a diet of yolk of eggs, shell fish, and capon broth, in small quantities, and repeated every two hours, and by giving three ounces of the

cold infusion of bark twice a-day, he re-established the lady's health in about two months.*

This, which is only one of a thousand instances, will deter our readers, we are persuaded, from tampering with vinegar, though Etmuller, a learned German physician, prescribed it. We have, however, in opposition to his authority, the still more weighty testimony of Haller, Cullen,† Frank, and Darwin, and the facts above stated. Haller gives a case in which cancer of the stomach was caused by vinegar. Borelli succeeded in curing a bad case of corpulence, by prescribing the chewing of tobacco, to provoke a large discharge of saliva from the mouth;‡ but none of our fair readers, we think, will like this much better than they would a severe course of salivation by mercury, as tried by Bartholin.§

REMEDIES FOR LEANNESS.

Corpulence is, in all cases, a disease; but it is not so with leanness; for many persons, who are peculiarly lean, are peculiarly healthy. But if the strength appear to diminish with increasing leanness, then

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* *Frank De Curandis Hominum Morbis*, t. vi. lib. 6.

† *Cullen's First Lines*, iv. 13.

‡ *Borelli, Cent.* 11; *Obs.* 11.

§ *Bartholin, Acta Hafniæ* i. *Obs.* 74.

there must be some disorder in the system, which either prevents the manufacture of a regular supply of good blood from the food taken into the stomach, or prevents its proper circulation after it is prepared. Upon these principles, leanness must, in all instances, depend; and, unless the cause is discovered, it would be wandering in the dark to attempt a remedy. We shall illustrate this principle, by the remarkable emaciation that occurs in comsumption.

You are to understand, that all the blood of the body passes through the lungs, in order to be purified by the air inspired in breathing. When the blood arrives at the lungs, it is dark and black coloured; but the instant it is exposed to the fresh air, it throws off all its refuse (which is carried out of the body by the return of the breath), and becomes of a pure deep crimson. But if, by any means, the fresh air is prevented from reaching the blood in the lungs, it cannot, of course, be purified. This is, precisely, what happens in consumption. Phlegm collects in the windpipe and in the lungs, and obstructs the air from reaching the blood, which must, therefore, flow back, unpurified, to the heart, and thence over the whole body. It follows, that this unpurified blood cannot supply proper nourishment to the parts requiring it, and that emaciation must inevitably follow.* The same conse-

* See *Oracle of Health*, vol. I. p. 315

quences will result from disorders of the stomach and of the liver,* which are the two chief agents for the manufacture of fresh blood to supply the body with nourishment.

In order, therefore, to discover the proper remedies for leanness, you must find out the cause that produces it, and endeavour to remove, or diminish, its effects. If no disease can be traced, and the health and strength are good, we recommend attention to some of the causes which we have above mentioned, as tending to produce corpulence. Eight or ten hours' sound sleep, on a soft bed, little exercise, and, at the same time, complete tranquillity, and ease of mind, or, in other words, good nature, which is not to be ruffled. "Laugh and be fat" is a popular and a true maxim; but even this laughing must be more a cheerful habit, than prompted by very lively joy, or a high enjoyment of wit and fun; for all violent and lively feelings, whether pleasant or painful, are injurious to plumpness and *embonpoint*.

If these are attended to, the diet is not so material, though good living is a powerful assistant. Above all other things, good mild ale, and cream in all its preparations, are great promoters of *embonpoint*. We must not forget sugar, also, which, in

* See *Medical Advice in Indigestion and in Bilious Complaints*.

moderate quantities, will prove an excellent remedy. A London physician lately published the case of a lady, who, by eating large quantities of sugar every day, had become quite unwieldy with corpulence; and it is well known, that the slaves in the West Indies become fat during the cane harvest, from the same cause. A similar remark has been made in China. Breakfasting on chocolate may, likewise, be of advantage.

6. CONTOUR OF THE BREASTS.

The most singular and unnatural custom is said to prevail in Spain of destroying the female breasts, similar to the absurd practice of the Chinese in destroying the feet. The Countess D'Aulnoy informs us, that, as it is reckoned a mark of a Spanish beauty to have no breasts, when they first begin to appear, thin pieces of lead are placed over them, and bandaged tight. In this way, says the Countess, their breasts are rendered nearly as flat and even as a sheet of paper. The stays and corsets, so much worn, very frequently produce a similar effect. The ancients had a very different opinion, as we find from the Greek poets, who never neglect, in their description of beauty, to introduce the epithet of "full-bosomed."* The great artists of antiquity, however, never represented the female breasts with

* Βαθυκολπος.

much protuberance or elevation;* and, in the statues of Venus, we uniformly find the natural proportions attended to. The Grecian ladies used a powder for preventing their breasts from becoming too large. They, also, used bandages for a similar purpose. Some of the old authors recommend pounded mint, applied to the breasts, to check their exuberant growth.

It may be important to remark, that the breasts are always the first part of the body which is affected by fat or emaciation; and our fair readers, who are interested in the subject, will, therefore, do well to follow the directions, above given, under the head of Corpulence and Leanness, according as the circumstances may be. If leanness prevail, then will it be requisite, besides attending to rest, good temper, and good living, to have the bosom loosely clothed, so as to produce no pressure. Friction with the hand, or with a soft flesh-brush, for an hour or two every day, will, also, tend to develope their growth. Nothing will prevent this in a greater degree than the artificial padding usually worn to supply natural deficiency, with the exception, perhaps, of the artificial breasts, said to be made of Indian rubber, but which we only know by description.

When there is, on the other hand, too great a luxuriance of volume, opposite methods must be

* *Winkelmann, Hist. de l'Art de l'Antiquité.*

pursued, the chief of which is bandaging; and, if that is not sufficient, the Spanish practice, mentioned above, may be tried with effect. The newest means of reducing the volume of the breasts with which we are acquainted is, by means of an internal remedy of great power, and which was discovered, while it was given for wens and other enlargements, to act in a similar manner on the female breast. As so powerful a remedy may not be safe, however, in the hands of the inexperienced to be taken into the stomach, we shall prescribe it in the form directed by Dr. Ure, of Glasgow, in his Chemical Dictionary; and we shall call it,

DR. URE'S OINTMENT FOR THE BREASTS.

Take one drachm of the iodide of zinc,
one ounce of prepared hog's lard;

Make an ointment, and rub in, daily, on each breast, about the size of a nutmeg of the ointment; the regimen for reducing corpulence being attended to at the same time.

A very erroneous notion prevails among ladies of rank, that suckling tends to injure the beauty of the breasts. This opinion cannot be too strongly discountenanced and exploded. The very contrary, indeed, is the fact; for the milk which is prepared in the breast, as the proper food for the infant, not finding a natural outlet, distends and injures the breast, while, if it were regularly drawn off by

suckling, this could not happen. We are happy to understand, that this strange notion is now gradually disappearing.

7. ADVICE TO MARRIED LADIES RESPECTING THE PRESERVATION OF THEIR SHAPE.

The married ladies of ancient Rome were so anxious to preserve their fine figures, that they had recourse to the most dangerous and criminal means for procuring abortion.* Even among the barbarous Visigoths, the same horrid practice had to be prohibited by law.† This, like every other unnatural custom, could not possibly be successful; for it is not so much the having of children that injures the shape, as suppressions, and other diseases, peculiar to females, which such practices could not fail to produce. If proper care is taken, a married lady has a better chance to preserve her shape than an old maid, who is always a prey to the disorders alluded to. We know a lady who has had no fewer than fourteen children, and who preserves her figure as well as if she had never been a mother: — numerous instances of the same kind could be mentioned; and

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* *Juvenal*, *Sat.* vi. 592, and *Octavius Menucius Felix*, cap. xxx.

† See *Beck's Medical Jurisprudence, edited by Dunlop*, page 132; where copious details are given on this subject, the drugs used, &c.

equally numerous instances of a very different kind might be collected among unmarried as well as among married ladies, who have never been blessed with children.

The proper care, which we have just mentioned as necessary, consists chiefly in clothing and dressing. During pregnancy, many try to conceal their increasing size by long stays, very tightly laced; though this, as we have seen, (page 5,) not only tends to dwarf and deform the infant, but it never succeeds, as it is intended, to reduce the shape, in any considerable degree. It has ever been observed, that those who have recourse to such tight lacing, are uniformly larger during pregnancy than those who dress loosely; as if nature had thus determined to punish the breach of her laws.*

After being confined, it was formerly the practice, and in India is still carried to a most injurious length, to swathe the mother with tight belts and bandages; but this has recently, and so far very justly, been laid aside.† The muscles, which have been for several months on the stretch, must, unquestionably, be relaxed; but so long as the lady is confined to bed, they can require no bandage to support them, as they have no weight to sustain, and no effort to make. We think the case very different, when she begins to

* See *Advice to Young Mothers*. By a Grandmother: p. 3.

† *Denman's Midwifery*, 4to. p. 603.

sit up, or to rise and move about. At this period, it will be highly necessary to have a binder, or a petticoat with a broad band, tied closely, but not tightly, so as to support the weak parts, till their usual strength is confirmed. This precaution is most necessary in women of relaxed habit, or who have a pale, bloated, and unnatural plumpness.

We wish to impress strongly on your minds the advice we have now given, as, when once the shape is destroyed, through inattention during confinement, and sometimes, in unmarried ladies, from female suppressions and irregularities, no remedy has been hitherto very successful in restoring it, though bandages and purgatives have been pushed to a great extent.*

II. THE BEAUTY OF THE SKIN.

A smooth, soft, and transparent skin, is no less indispensable to the perfection of beauty, than elegance of figure; and though much of the beauty of complexion depends upon nature, yet art can often perform wonders, which could not, by the uninitiated, be conceived to be within the limits of possibility. It is here, indeed, where our Art of Beauty is most triumphant; and we must, therefore, enter minutely into all its secrets, that our readers may

* *Burns's Principles of Midwifery*, Book iii. ch. 23.

be enabled to ward off every tint of age or of disease,—remove freckles,—prevent sun-burn,—smooth wrinkles,—and change the dry sallow skin to softness and transparency. This art, we are bold to say is new in books, and almost unknown in practice; but we hope and expect, that it will come into fashion the instant it is known and properly estimated. The truth is, that philosophers and physicians are only beginning to discover the functions and qualities of the skin, and the nature of its numerous disorders; and all that has hitherto been done on the subject, has been mere wandering in the dark, and trusting to the assertions of perfumers and patentees, who are interested in the sale of expensive, and, for the most part, deleterious nostrums, such as Goulard's Water, Kalydor, &c. We shall, first, lay a sound foundation for our art, by establishing scientific facts and principles.

1. DESCRIPTION OF THE SKIN.

The skin is composed of three different coats or layers, the outer, the middle, and the inner coat; which we shall now describe in their order.

*The Outer or Scarf Skin.**—This layer of the skin is nearly transparent, as may be seen in a blister, and has the appearance of very finely finished net-work. It is very thin, except in the palms of the hands

* This is called the *Cuticle*, or *Epidermis*, by the learned.

and the soles of the feet; this is the case, even in the new-born infant, but by walking and hard labour it is rendered still thicker. Like the hair and nails, the scarf-skin is altogether insensible, and may be cut or torn without pain, being destitute, so far as can be traced, of nerves and vessels. This property enables it to resist destruction, by maceration and the impression of external objects; and blunts the otherwise too acute feelings of the inner layer of the skin. It is the only part of the body, besides the teeth, which can bear the contact of the air. In the living body, the scarf-skin allows of the passage of moisture both inwards and outwards, but when it is acted upon, and its vitality destroyed, by a blistering plaster, as well as after death, it becomes quite impermeable to moisture; a circumstance which has led some physiologists, of no mean note, erroneously to assert, that in the living body it cannot be penetrated by moisture.*

The scarf-skin becomes thicker, harder, and horn-like, by hard labour and continued pressure. When shoes, therefore, are worn too small, the part of the foot which they pinch has the scarf-skin greatly thickened into a hard horny button, ending in a point that presses inward upon the tender skin, and causes much uneasiness. Like the hair, also, the scarf-skin is constantly shed, which is the origin of

* *Blumenbach's Physiology*, § 178.

the scales found on the head, and on black silk stockings, &c.

There is a very singular disease which attacks the scarf-skin, in which the body is all over covered with horny warts, sometimes so closely set as to form a surface somewhat like the skin of an elephant. This singular porcupine disease is in most of the known cases, transmitted from father to son. Several individuals, of this description, have, at different times, been exhibited in London.

*The Membrane of Colour.**—Under the scarf-skin is a mucous net-work, which forms a soft bed to sheath the terminations of the nerves in the inner skin from being too keenly affected by external impressions.

It is highly probable that this layer of the skin is changed into scarf-skin, when that has been destroyed or rubbed off. This mucous net-work is, indeed, found to exist in different stages, according to its nearness or distance from the surface. Its innermost surface, which is the seat of small-pox and other eruptions, abounds more in vessels and nerves, than it does in the middle and the outer surface. When these surfaces successively change into scarf-skin, they gradually lose their vascularity.

This mucous net-work is the seat of colour in

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* This is called, by anatomists, *Rete mucosum*, *Reticulum Malpighianum*, and *Corpus reticulare*.

our species, the scarf-skin being nearly transparent and colourless; and this has given rise to many very minute investigations, which we have no room to detail, respecting the question, whether Negroes, Americans, Hindoos, and Europeans are all of the same species. This membrane is wholly wanting in Albinos; in Europeans, Dr. Gordon and Mr. Lawrence both failed in separating it in form of a continued membrane;* in the Negro, on the other hand, it is distinctly continuous. Dr. Gordon says, the colour of Europeans depends wholly on the red inner skin shining through the grey scarf-skin.

The True Skin.†—The innermost or true skin is greatly thicker than the other two, and all together is not much less in thickness, in man, than the skins of most other animals. On the eyelids and lips this layer is very thin, and nearly transparent; so that a bright light is easily distinguished through it, although the eyes be closely shut. A strong light, on this account, will often awaken a person from sleep, and even, if it do not, may injure the eyes.

The texture of the true skin is fibrous and close, full of minute pores, glands, vessels, and terminations of nerves. These pores are so minute, as

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* Mr. PLUMBE, in his work on Diseases of the Skin, has taken it upon him to deny its existence altogether, without a shadow of proof beyond his own assertion!!!

† Called, by the learned, *Dermis*, *Cutis*, and *Corium*.

the microscope proves, that a grain of sand would cover 25,000 of them. They are the mouths of vessels made of solid sides, which convey away the insensible perspiration, and receive what is absorbed from without.

The extremities of the nerves on the true skin are almost like the pile of silk velvet, in fineness and softness, rising out of the surface of this inner layer like close-set down. When magnified, these points appear in some parts like warts, in others like little mushrooms, and in others like the extremities of threads. Except on the lips, however, and after long maceration, it is very difficult to discover these appearances. Majendie says, the whole account of these terminations of the nerves on the skin is purely imaginary; but, if so, why is the skin the most sensible part of the body? In surgical operations, the cutting through the skin is always the most painful.

This velvet-like texture is, in some degree, observable externally on the inner surface of the fingers, particularly near their tips, being placed in spiral lines. It is here that the sense of touch is found to exist the most acutely, with the exception, perhaps, of the lips. By attention, these fleecy ends of the nerves may be seen to raise or erect themselves, as in frights and shiverings. These soft and close-set extremities of the nerves are defended, as we have already seen, by the mucous net-work and insensible scarf-skin, so that any impression

made from without is, by their means, modified and somewhat blunted.

The whole skin is capable of being stretched or contracted, in consequence of its fibrous and spongy texture. The numerous vessels which every where run through the true skin, are more abundant in some parts than others. In the cheeks, for example, they are in countless numbers, yet so very small and close set, that the surface appears of a uniform redness.

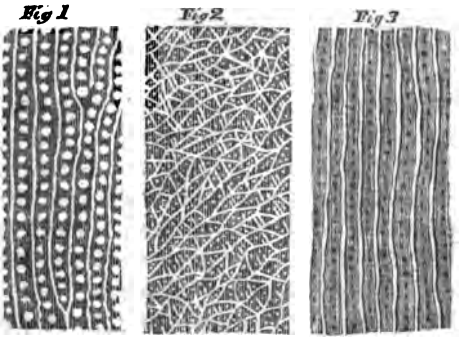
Any irritating substance applied to the skin, such as mustard, increases the size of these vessels, and deepens the redness of the skin. The passions, also, of joy and anger have a similar effect; while sorrow, fear, and disappointment, and cold, or a fit of the ague, will cause the skin to become dry, and full of little raised portions, known by the name of goose-skin. The pores of the skin seem to open at the same time; hence small pox, it is worthy of remark, typhus, and plague, are easily contracted by fear.

Moisture of the Skin.—None of the organs of sense appear to be capable of performing their functions perfectly, without the presence of moisture, as we find in tasting, smelling, hearing, and vision. Accordingly, it is remarkable, when the skin is dry and rough, that the sense of touch is very much impaired in nicety. The importance of moisture, to life and feeling, is proved by the simple experiment of putting a common garden snail in a dry

place, where it will soon become torpid and apparently lifeless. The most wonderful circumstance is, that it may be at any time restored to vigour by sprinkling it with water. Spallanzani revived some animalculæ, after they had been deprived of moisture for twenty-seven years.

The moisture which softens the skin is a soft, half-fluid wash, somewhat of the nature of soap. It is prepared immediately under the true skin, in very numerous little glands or fountains, which separate it from the blood, and it oozes through minute pipes to the surface.

SKETCH OF THE FOUNTAINS OF THE SKIN, MAGNIFIED.



The glands, magnified sixty or eighty times, are seen in the first figure, arranged regularly, as is the

case in the hand; in the second, they are irregularly scattered, as on the back. The third figure shows the mouths of the little pipes, as they appear in the foot. There is another substance, by which the skin is anointed, rather dry, white, and of a waxy consistence in the face, but oily in the armpits. It is probably this ointment, which, in certain diseases of the stomach and bowels, becomes deteriorated, and gives the face a swarthy, greasy appearance.

Independent of glands, the fat gives out a third ointment to the skin, particularly where the skin is covered with hair. It is this which causes the peculiar unpleasant smell, which the hair is sometimes observed to emit, and which is only to be corrected by careful and repeated washing, and, if that will not do, by sweet-smelling essences.

PERSPIRATION.

With respect to the glands under the skin, we cannot assert that they are found in every part of it, as they cannot be every where discovered by dissection. But in most parts of the body, though washed ever so carefully, the linen is found to be soiled with what appears to be the excrements of the skin. Very corpulent persons will soil their linen in twenty-four hours. After drinking plentifully of red wines, this soiling is of a purple colour.

There is, in health, a constant flow of moisture

from the skin, which is commonly insensible, but may easily be made apparent, by the simple experiment of holding a *cold* piece of glass for a few seconds near the skin, when it will be covered with moisture. When this flow of moisture is increased by exertion, or by external heat, it becomes visible in drops upon the skin, and tends to cool the body by its evaporation. The rank smell of this moisture is caused by the intermixture of the oil of the skin; hence it is found to be more fœtid in the armpits, where this oil is most abundant. Both blood and small sand have, according to Baron Haller, been known to pass through the skin with the sweat.

It is the scent arising from perspiration which enables dogs to follow their masters; and as they have been known to do this even in a crowd, we infer, that the perspiration of each individual affords a different scent. Alexander the Great was said to emit a fragrant odour from his body.

PERSPIRATION DEPENDANT ON THE BILE.

The connection of the skin with the liver has only been recently investigated upon scientific principles; though it must, long ago, have struck every observer in the remarkable instance of jaundice. We cannot, in a work like this, go into the history and cure of the numerous disorders of the liver and the bile; but it would be deceiving our readers not to sketch an outline of the effects which these always produce on the

skin; and to assure them, that no washes nor external applications will have any power to remove sallowness, pimples, freckles, &c. unless the digestion be freed from disorder, and all bilious and liver complaints be removed.* It is upon this point that we claim a superiority over most of the works which have been devoted to the art of beauty; for, while they are amusing and decciving their readers with useless, and, perhaps, injurious washes, we strike at once at the root of the evil, and purify the foulest skin into smoothness, transparency, and beauty. We shall now, therefore, teach you a little of the true philosophy of the subject.

There exists between the skin and the vessels in the liver which separate the bile from the blood, the strongest companionship of any in the body—that is, the formation of bile and of perspiration go on uniformly and proportionately together, and from infancy to old age are under the influence of the heat of the air, or of climate, from the pole to the equator.† In warm climates, this is more easily traceable; for, as we approach a hot latitude, perspiration and the flow of bile both increase, whereas, when we go to a cold latitude, they both decrease in an equally proportionate degree. The heat in-

* The best prescriptions will be found in *Medical Advice in Bilious and Liver Complaints.*

† See *Johnson on Tropical Climates*, page 488, 3d edition.

creases the perspiration, and also the flow of bile; the cold air narrows or shuts up the pores of the skin, and also decreases the flow of bile, while the fluids in the blood, thus prevented from escaping by the skin and the liver, are thrown upon the bowels, and cause what we may call the pale-flux, as we may call the former the yellow-flux. In our own climate, we may observe numerous instances, during the hot weather of August, of this yellow-flux, which sometimes goes farther, and constitutes bile-flux, which the doctors call *cholera morbus*.

Bichât found, by experiment, that, while the process of digestion is going on in the stomach, the flow of bile is diminished, and the outlet of the stomach closed; but no sooner does the food pass from the stomach, than the bile flows copiously. It is the same with the perspiration of the skin, which is diminished during the preliminary stage of digestion, and is increased the instant the bile begins to flow upon the digested food. A similar observation holds good respecting those invalids from the East and West Indies, whose livers are sluggish and torpid, and produce little bile—namely, that their skins are at the same time dry, harsh, and without any appearance of the softness and moisture characteristic of health.

Every person who has taken an emetic, may recollect how he was drenched in perspiration from the nausea, and how, at the end of the operation, he

discharged a quantity of pure bile. In the analogous case of sea-sickness, this is still more remarkable, the perspiration and the vomiting of bile keeping strict pace with each other. Exercise powerfully promotes the flow of the bile, as well as of perspiration, illustrative of which, a curious case is given in the *Edinburgh Medical Journal*. The patient had an obstinate indigestion, with deficiency of bile and dry skin. All remedies were taken without effect, till he tried violent broad-sword exercise, which brought on a copious perspiration, and with it, of course, the requisite flow of bile.*

These facts demonstrate the impossibility of keeping the skin in a state of health and beauty, while the liver and the bile are disordered; for though, by means of cosmetics, an artificial colour and transparency may, for a time, be imparted, this will not only be transitory, but, as we shall see anon, will often be injurious. If, therefore, the skin be dry, harsh, and sallow, you may be certain there is an obstruction of bile; if it be greasy and liable to perspire, the bile is too abundant, and must be remedied by proper medicines. It may not be out of place to mention here a circumstance connected with perspiration, which is sometimes very troublesome; we mean,

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* *Oracle of Health*, vol. ii. page 174.

PERSPIRATION OF THE HANDS AND FEET.

This is, almost in every case, an indication of debility, or infirm health, and is very common in indigestion, and in the nervous or the bilious. The remedy, in all these cases, is, therefore, to be sought for among those medicines which will remove the constitutional affection, rather than in local applications, as the effect of these can only be temporary. But even the temporary removal of disagreeable perspiration in the hands or the feet, may, sometimes, be considered useful. We shall mention a few things that may be applied with safety.

The hands may be, with this view, dipped in cold water; if rose water is at hand, it will be still better. Dr. Darwin mentions a bad instance of this kind, which was remedied, as often as it proved troublesome, by immersing the hands in lime;* not quick-lime, however, we should imagine, but lime water, which, from its astringency, will act even more powerfully than cold rose-water. Washing the hands with the infusion, or the tincture, of galls, or oak bark, into which a little eau de Cologne, or any other perfume, may be put, is an excellent application of the same kind in bad cases. In all slight cases, the rose-water, or plain cold water, ought to be preferred.

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* *Darwin's Zoonomia*, I. 327.

With respect to the feet, it will not be safe, in weak constitutions, to use very cold water, as it may bring on colic, and other complaints. Dusting them with very fine powder of galls, or of alum, or, what is, perhaps, still better, soaping the stockings with any perfumed soap till they are quite saturated, and then allowing them to dry thoroughly before putting them on, may be safely and effectually tried.

Those who are troubled with perspiration of the hands or feet, or with a greasy sort of moisture on the face, ought never to wear flannel next the skin, as this tends very much to increase all these, in consequence of the companionship of one part of the skin with another. It is known to all our readers who have ever worn flannel, that it produces a greasy moisture on every part of the skin which it immediately covers.†

2. DISCOLORATION OF THE SKIN.

The complexion which is considered the most beautiful is a pale carnation, in which neither the white nor the red can be said to predominate. The learned try to persuade us, that the Goddess of Beauty derives her name from the Celtic word *ven*,* or, as the Scots and Irish Celts have it, *bhan*, which

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* *M.* CARREY, *Des Origines Gauloises.*

† See *Oracle of Health*, vol. ii. page 247.

means white; but a Venus with white flaxen hair* and red eyes, like an albino, would find no admirers, we are persuaded, except among such untamed and untameable barbarians as the Celts. A brunette may, indeed, prefer a rival claim, and find many a Paris who would decide that she best deserved the golden apple; but we cannot hesitate for a moment between the carnation or the brunette, and the pale, bloodless, and lifeless, complexion, and its usual accompaniments of white eye-lashes, and weak red eyes. Those who are unfortunate enough to inherit these, shall have our best advice anon; in the mean time, we shall proceed to examine such disorders of the skin as affect its colour, with the appropriate remedies. Of these disorders, the most prevalent, and that, also, which is very little attended to, from being imperfectly understood, is usually called,

GREEN SICKNESS.

The doctors, who sport their odds and ends of Greek to throw dust in the eyes of their employers, call this disease *chlorosis*, which is barbarous Greek for "grass-greenness," referring to the pale, greenish-yellow tinge of the complexion in this complaint. Besides this diseased colour of the skin, the patient,

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* What could tempt BURNS to praise such a Celtic beauty in his song—

"Sae flaxen were her ringlets"?

who is usually young, though it often appears about the critical age of fifty, is affected by numerous symptoms, particularly a deranged and depraved appetite from the generation of acid in the stomach, which excites the desire to eat chalk, lime, fuller's earth, charcoal, cinders, and other outré things; and, along with this, she is languid, listless, unwilling to move or to do any thing, and apt to faint from the slightest causes. Her limbs are feeble, her head aches, and the back of the neck feels stretched and painful, her eyes glisten, her mind is fickle and irritable; she is melancholy and sad, and loves to be alone; she has a tendency to weep for mere trifles; she is troubled with pimples and eruptions about the face and neck; and, on the slightest exertion, she breathes with difficulty. There is pain in the back and in the loins, and often gripes like those of colic. Sometimes the skin assumes a glazed waxy or greasy look, and the face, particularly the eyelids, in the morning appear swollen, turbid, and of a leaden colour. The feet and legs feel cold, as if they were placed in cold water, and become swelled at night. The sleep is broken or disturbed by night-mare, and there are frequent ringing in the ears, bleeding at the nose, and giddiness. The dreadful feeling of sinking, as if the patient were about to die, and often ending in a faint, occurs chiefly in close rooms, churches, and other public places, and more particularly when the patient is standing.

METHOD OF TREATMENT.

This must always depend on the causes. Among these, Professor Frank mentions the injury produced by napkin-bandages and cloths, so common among European females, and tight dresses and stays. He, also, justly accuses novel-reading, and other excitements of the passions; the use of acids to diminish corpulence;* and indulging in improper food, and much weak watery drink. The shame attending certain discoveries, which the mother has not previously mentioned, is, also, he says, a frequent cause; and he gives the case of a noble virgin, who died in a few days, in consequence of an unforeseen disclosure at a ball.

As suppressions, obstructions, and irregularities, are always a leading feature of the disease, we must, in the very first order of remedies, place the great discovery of Dr. Lavagna, and cannot repeat it too often, that it is the best and safest female remedy ever devised by human skill. We call this,

DR. LAVAGNA'S FEMALE LAVEMENT.

Take ten or twelve drops of volatile alkali,
two table spoonfuls of warm milk;
Mix, and inject three or four times a-day till suc-

* See above, page 80.

cessful, or for a week, with the usual midwife's apparatus. The feeling is, at first, rather unpleasant; but this soon goes off.

Along with this, the warm bath ought to be used; but the cold bath must be strictly prohibited, and bleeding, also, except when the pulse is strong and bounding, and where there is, as often happens, a decided fulness of habit, in which case two dozen leeches, or more, applied below the navel, will always do good, and still more if followed with a blister in the same place. We, also, strongly recommend lying as much as possible on a sofa, or couch, and the use of light, simple diet, and such as is not apt to become acid on the stomach. One of the best things which we know for correcting the diseased appetite for cinders, clay, &c. is the

BITTER DRAUGHT FOR ACIDITIES.

Take half an ounce of the liquor of sub-carbonate of potass,
one ounce of the compound infusion of gentian,
one drachm of the tincture of cascarilla;
Make a draught, to be taken when occasion requires.*

It is important to tell you, that though green sick-

* See, also, WENDT's remedy, above page 76.

ness is often a very alarming disease, from its assuming so closely the symptoms of consumption, yet it is much less dangerous, and, for the most part, easily cured, if taken in time, by the means we have pointed out, and particularly by Dr. Lavagna's plan. If suffered to go on for months or years, it may, certainly, end in consumption at last; a much more serious evil than even the discoloration of the skin. Marriage is, usually, the most speedy and effectual cure, when the patient is young.

FRECKLES

Are not exactly a disease, but they are often felt as an inconvenience, which, like Lord Byron's cloud,

> ———"Has no business to appear,
> When skies are blue, and earth is gay."

We must, therefore, tax our philosophy to examine a little into the causes, that we may discover, if possible, some means of preventing their unbeautifying operation, or of remedying their "sear and yellow" consequences. It will be necessary, however, in order to follow us thoroughly, for our fair readers to brush up their chemistry, as we cannot avoid talking about oxygen, and heat, and charcoal, and alkalis, and the like. Mrs. Marcet's clever little work,—*Conversations on Chemistry*, formerly *mothered* on Lady Davy, is the best and easiest book to get a tea-table knowledge of the science from, and

this is all that will be necessary for philosophising upon freckles.

To such as may be desirous of sporting a bit of medical Greek and Latin, we may mention, that freckles are called by the learned *epichroses lenticulæ*; but, as we like to deal in facts and philosophy, rather than in useless word-knowing, we shall throw these learned terms aside, and let whoever chooses pick them up. They might, perhaps, be useful to Ross, Rowland, or Prince, to stick into their advertisements; but we must keep to the understandables. Learning in masquerade is always a mountebank; ignorance, with a Greek mask, is either a ninny, a natural, or a swindler.

We shall first dispose of the less common sorts of freckles, that we may have free space for the common ones. Among the former, we may reckon a hereditary disposition of the skin, sometimes observable, and particularly remarkable and unaccountable, in the dark-complexioned children of parents, who have bright auburn or red hair. The freckles are often, in this manner, transmitted to the children, when one only of the parents has this sort of hair. This, like all hereditary affections, is much more difficult to remedy than mere summer cases of freckle; though, even in hereditary cases, the receipts below will, generally, have some effect in improving the skin.

Freckles sometimes occur, also, in great abun-

dance during pregnancy, and disappear after lying-in. They become particularly distinct in the latter months, and evidently depend on the state of the blood, and circulation of the skin. We may say the same of the freckles of pregnancy, as of the hereditary ones, namely, that a complete cure is impossible till after the confinement. It is believed on the Continent, that freckles in pregnancy foretel the birth of a female infant; and Dr. Riedlin, a respectable and scientific author, gives his testimony to the truth of the opinion. We are sorry, that we have not yet observed a sufficient number of cases to say whether this holds good or not.

CAUSE OF FRECKLES.

You have observed, a hundred times, the effect which a strong heat produces on a bit of white paper, changing it to every shade of yellow and brown, in proportion to the violence of the heat to which it is exposed. Think, for a moment, and you will perceive, that it is precisely the same thing which often, during summer, dapples the leaves of trees and shrubs with rusty spots,—the heat of the sun acting on them, as the heat of the fire did on the paper.

Chemistry explains these effects by saying, that most combustible things of the vegetable and animal kingdoms have charcoal, or, as chemists call it, *carbon*, for their basis; and the rest of their

elements, such as oxygen, and other gases, being rarefied, and driven off by heat, the charcoal alone is left behind, in a greater or less degree of purity, in proportion to the degree of heat which has been employed. If all the oxygen and other gases have been driven off, what is left behind will be pure charcoal and black. If the oxygen and other gases have been only partially exhaled by the heat, the residue will not be pure charcoal, but will be brown, yellow, or orange, of various shades. There is another part of the process which we must explain chemically.

The oxygen, when disengaged from the general substance of the paper, or of the leaf, by heat, does not all nor always escape into the air; for if it have a stronger friendship, or affinity, as the chemists say, for any one of the remaining elements of the paper, or of the leaf, it will instantly combine with it, and form a new compound. For example; if there be any iron in the paper, or in the leaf, the disengaged oxygen will eagerly join itself to it, and form the brown substance called rust of iron, and no ordinary degree of heat will afterwards be able to disjoin the oxygen and the iron. Now, iron being almost always present in all vegetables, this gives you, at once, a clear explanation of the manner in which brown, rusty spots are formed on leaves and fruit during the heats of summer.

If you apply this to the case of freckles on the

skin, you will find that it agrees in every particular. The skin has charcoal for its basis, in the same way as paper and vegetable leaves; and, if it be exposed to heat, it will be more or less partially charred, and coloured spots will, consequently, appear on the skin. Besides, it is now well known, that there is a considerable quantity of iron in the blood, and other constituents of the body; the junction of this with oxygen will form rust of various shades, according to its purity and its mixture with the disengaged charcoal. This explains, in a satisfactory manner, the reason why those who have red hair are more liable to freckles than others; for it is ascertained, that the red colour of the hair arises from a red-coloured oil, containing a large proportion of iron. As the skin and the hair, therefore, are so analogous in constitution, the iron will, of course, superabound in both, and be always ready, on the least exposure to heat, to join the disengaged oxygen, and form the rusty spots on the skin which we call freckles.

Having thus explained the philosophy of freckles as simply as we could, and the first time, we believe, it has been done, we must now try, on the principles laid down, the efficacy of certain things which have been proposed, as

REMEDIES FOR FRECKLES.

In the case of oxygen combining with the iron of

the blood or skin, and forming rusty spots, the most effectual remedy will be that which shall dissolve this combination, either by laying hold of the oxygen, or by seizing the iron; and of these we have great variety. But, previous to the application of any of these, it will be requisite to soften the skin itself, in order to allow these remedies to penetrate more effectually, for the freckles are not situated on the outer layer or scarf-skin, but on the second or middle membrane. The softer, therefore, you can render the outer skin, the more effectual will the direct remedies for freckles prove. For this purpose, you will do well to attend to what we shall recommend, in a subsequent page, for the lips, and particularly Lady Elizabeth Conyngham's lip honey; which should be applied to the freckled parts of the skin for two or three days before you apply the chemical remedies. Or you may use, for the same purpose, for two or three nights, the

ROMAN BALSAM FOR THE SKIN.

Take one ounce of bitter almonds,
one ounce of barley flour,
a sufficient quantity of honey;

Beat the whole into a smooth paste, spread it thinly on the skin at night, and wash it off in the morning.

The skin being thus prepared for the chemical

remedies, you may select any of the following, or try them in succession, if the freckles, as they often do, remain obstinate, and refuse to yield to the most powerful means which can be devised for their removal. If you wish to decompose the freckles, by trying something that will lay hold of the iron, then we advise you to try the

FRECKLE WASH.

Take one drachm of muriatic acid,
half a pint of rain water,
half a tea spoonful of spirit of lavender;
Mix, and apply it two or three times a-day to the freckles, with a bit of linen, or a camel-hair pencil.

In this case, the acid seizes upon the iron, and the oxygen is set free. On the other hand, if you wish to attack the oxygen by preference, you may try the

PURIFYING WATER FOR THE SKIN.

Take one tea spoonful of liquor of potass,
two ounces and a half of pure water,
a few drops of eau de Cologne;
Mix, and apply as before.

Again, you may sometimes be able to remove freckles without decomposing them, by merely stimulating the absorbent vessels of the skin to take them up and carry them away, as refuse and rub-

bish.* Any smart stimulant will act in this way; but it has been found, that the safest are those taken from the vegetable kingdom. Among these, one of the best, and easiest made, is

DR. WITHERING'S COSMETIC LOTION.

Take a tea cupful of soured milk, cold,
scrape into it a quantity of horse radish;
Let this stand from six to twelve hours, and strain, when it may be used to wash the parts affected, twice or thrice a day.

We could easily give you twenty other prescriptions for freckles; but, if you find these fail, you may begin to despair of a complete cure, unless they depend, as they sometimes do, on the state of the blood, or of the bile. It may, also, be of advantage to attend to what we shall now say respecting sunburn.

SUNBURN.

A pure, delicate, and transparent complexion, awakening all the pretty associations of lilies gemmed with dew, and roses breathing their balm in the freshness of a summer morning, sometimes produces in us the unmannerly melancholy of philosophy, and suggests the effects which the sun—all bright and glorious as it is—may speedily have in spotting

* See *Oracle of Health*, vol. i. p. 358.

a fair face with freckles, or embrowning its soft transparency with sunburn, should our young beauty dare to enjoy a summer ramble, or a romp among the tanned hay-cocks. Such are all our pleasures. Punishment and pain uniformly follow close upon human delight. It is our lot, and we must submit. A fair lady cannot exchange even a laughing look with the sun, but she must suffer for the innocent frolic. The Spanish poet, Francisco de Borja, gives this very prettily.

Detente, aguarda, presumida rosa,
Y en la piedad de Mayo no confies;
Porque esses hojas, donde aora ries
En el seran tu perdicion hermosa.*

We confess to the eccentricity, however, of liking a little dash of sunburn, or a sprinkling of nice, little, delicate freckles, on the brow of beauty. As Lord Byron says of Italy—"thy very weeds are beautiful—thy wreck a glory,"—so say we of a fair face upon which Apollo has imprinted his summer mark. We are well aware, however, that we are almost as peculiar in this as Mr. Uvedale Price, in

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* Dr. GOOD has favoured us with the following translation.

Vain-glorious rose! thy boast forbear;
Trust not May, though heavenly fair.
Now laugh amid thy leaves; but know,
Thy beauteous ruin thence shall flow.

his *Essay on the Picturesque*, where he lauds the beauty of a squint-eyed damsel, and we bow accordingly to the superior taste of our fair readers; and, in order to lay a foundation for the cure, we now proceed to the

CAUSES OF SUNBURN.

If you will take the trouble to cast a glance at page 112, where we have sketched the philosophy of freckles, you may learn a few useful things about sunburn, which is sometimes much a-kin to these, and arises from similar causes. We have no doubt, however, that one of the most frequent causes of sunburn is to be sought for in the superabundance of bile which the heat of summer, as well as hot rooms, so often produces.* Whenever, therefore, you are much tanned by the sun, suspect that there is some lurking disorder of the liver or the bile. Observe whether your bowels are disordered, your mouth bad tasted in the morning, your tongue loaded with a white or a brownish crust, your spirits low and melancholy, and your limbs languid and soon wearied. If you remark any of these symptoms, it will be in vain for you to try any external wash to remove your freckles or sunburn. You must go to the root of the disease at once; for, so long as your blood is loaded with the brown matter derived from

* See *Medical Advice in Bilious and Liver Complaints*, p. 15.

the bile, although you clear the skin one hour, it will, infallibly, be freckled or sunburnt the next. For the constitutional treatment, we refer you to the little work quoted at the bottom of the page; but, as we know that few of our fair readers will be contented with that, unless we, also, prescribe some wash, we refer them to page 114, &c., for several excellent cosmetics of this kind, applicable both to freckles and sunburn, and we shall now give one or two more to choose from.

PREVENTIVE WASH FOR SUNBURN.

Take two drachms of borax,
one drachm of Roman alum,
one drachm of camphor,
half an ounce of sugar candy,
a pound of ox-gall;

Mix, and stir well for ten minutes, or so, and repeat this stirring three or four times a day for a fortnight, till it appears clear and transparent. Strain through blotting paper, and bottle up for use. Wash the face with it every time you go into the sunshine.

GRAPE LOTION FOR SUNBURN.

Dip a bunch of green grapes in
a basin of water, and then sprinkle it with
alum and salt, powdered and mixed;
Wrap it in paper, and bake it under hot ashes.

Then express the juice, and wash the face with it, and it will remove sunburn, tan, and freckles.

LEMON CREAM FOR SUNBURN AND FRECKLES.

Put two spoonfuls of sweet cream into
half a pint of new milk, squeeze into it
the juice of a lemon, add
half a glass of good brandy, and
a little alum, and loaf sugar;
Boil the whole, skim it well, and, when cool, put it aside for use.

We could easily add twenty more receipts of the same kind, but these, with the directions already given, will, we think, be quite sufficient.

WHITE VEILS INJURIOUS TO BEAUTY.

One thing we must not omit, namely, that the white veils, now so much worn, have a tendency to increase sunburn and freckles, by their increasing the intensity of the sun's light. They are, also, very injurious to the eyes, and will, in a short time, spoil the freshness and dim the lustre of the most brilliant eyes. Green is the only colour which should be worn as a summer veil. Recollect, that we do not, in this, intend to oppose our philosophy to the influence of fashion; but we only do our duty when we warn our fair readers, that, by following the fashion in this, they run the serious risk of injuring

the delicacy of their complexion, and of destroying the beauty of their eyes.

NERVOUS AND HECTIC FLUSHINGS OF THE FACE.

As indigestion and bilious disorders will often cause the skin to be sallow or pale, so will nervous and consumptive complaints produce an unnatural flushing, which often marrs the finest complexion, and the loveliest features. It will, therefore, be requisite that we should instruct those who are visited by such flushings, how to distinguish them from the bright hue of health, for which they are frequently mistaken.

The nervous flush is usually fresh and florid, and so similar to a rustic tinge of carnation, that the friends of the individual remark it as an indication of the best health. This deceptive appearance of health often occasions great uneasiness to the unhappy sufferers, who, being often in the hey-day of youth or manhood, are apt to be strongly suspected of dissimulation and feigning, when they complain of headaches, sinking, faintness, flatulence, and other distressing accompaniments of nervous disorders.

You will seldom be deceived in making the proper distinction in such cases, if you take the following circumstances into account. The leading distinction between the hue of health and a nervous flush is, that the natural red is, for the most part, confined to the cheeks, and shades off into a clear pale colour

about the temples, the eyes, the neck, &c., while the nervous flush is spread over the whole face, and often part of the neck, and the temples, which are pale in health, are suffused with red. To those who have only a smattering knowledge of disease, this nervous flush is considered to be hectic, and thus they often raise an unfounded alarm from their own ignorance; for hectic is a fatal symptom, while the nervous flush, now described, indicates little or no danger. You may almost always discover the difference by the pulse; the hectic pulse being uniformly 100 or more; the nervous pulse seldom, if ever, above 85 or 90 beats per minute, and often not more than 70 or 65. The average healthy pulse is 75, but varies very much according to age, sex, size, and constitution.

Another mark of importance is the feelings of the patient with regard to heat and cold. In the case of health, the poets may talk of "the warm glow of Hebe's cheek," but this cannot be felt by Hebe. It is in the unhappy nervous patient, whose stomach is deranged, and who is annoyed with flatulence, fretfulness, and fears of imaginary evil, that uncomfortable heat attends the flushings of the face. The deceptive colour of the cheek, indeed, is always attended by this most disagreeable feeling of heat, and, in the coldest weather, such patients will ask you whether you do not feel it sultry and close. It is remarkable, that this unnatural heat is not per-

ceptible externally; for, though you put your hand to the cheek or the brow, described by the patient to be burning hot, you can feel no unusual glow, nor elevation of temperature. This proves, most satisfactorily, that the feeling of heat is in the enfeebled nerves of the face; that is, the nerves, from their weakness, magnify small degrees of heat into great degrees, in the same way as the mind, when weak, magnifies small fears into appalling terror—another strong symptom, as we shall presently see, of this very complaint.

In health, the eyes are always clear and bright, and have a steadiness of look and purpose, which is never observed in nervous cases. There is, however, a brightness of the eyes, a dark deep brilliance, seemingly kindled up by high health and lively hilarity, but, to the more knowing observer, pointing out the irritation of the weakened nerves, which imparts a false vivacity to the eyes, in the same way as it gives a false tint to the cheek.

Along with such symptoms, you will almost uniformly find a chilliness or coldness of the feet. Sometimes they will be cold and dry, as if they were exposed to frost; at other times, they will feel as if they were plunged in cold water; and, again, they will be drenched in cold perspiration. All this is clearly explicable, from the feeble and relaxed state of the nerves, which renders them so feverishly sensible to the slightest changes of heat or cold, and, as

we have just said, causes them to magnify those changes ten-fold.*

In hectic, the flush is not diffused over the temples and ears, as in nervous cases, but is confined to a small bright spot on the top of the cheek,

> "Which emulates the rose's bloom,
> The hue that haunts it to the tomb."

This may occur in every variety of complexion; but it is inferred, from experience and observation, that it is more common in those who have a very fine transparent skin, very light coloured hair, blue eyes, and a weak constitution.† It is usually the token of a fatal disease, particularly consumption, and the patient is, for the most part, full of hope, and in immediate expectation of recovery. The treatment of those disorders we cannot enter upon, but refer you to the works quoted below.‡

MOLES AND BIRTH MARKS.

The common brown mole, which the Greeks called *spilos*, appears to be much of the same nature with freckles, and to be situated in the middle layer of the skin, or the membrane of colour. Moles are,

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* *Oracle of Health*, vol. i. p. 417.

† See *Stoll's Prælectiones*, p. 19.

‡ See *Medical Advice in Indigestion*, page 36.—*Med. Advice in Nervous Disorders and in Consumption.*

sometimes, so well placed, as to set off, rather than injure, a fine face; serving as a contrast to the delicacy of the skin, and giving an archness of expression to the countenance. They are most becoming, and they are also most commonly met with, in women of dark complexion. It is not unusual, however, to find them on the fairest and most delicate skin. The colouring matter, as in the case of freckles and sunburn, is, probably, some chemical combination of iron.* Be this as it may, moles have evidently a superabundant vitality, and a tendency to increased action, in consequence, perhaps, of the stimulus of the iron; and hence they are often slightly elevated above the surface, and the natural down of the skin is changed into a tuft of hair. They usually originate before birth, and sometimes disappear at the age of puberty; but they have also been known to appear at different ages.† The same cosmetic applications may be tried as for freckles, with gentle friction; but they are seldom successful. Care must be taken, however, not to produce much irritation, as it may lead to dangerous consequences, such as a foul, suppurating, fœtid sore, or even to cancer or mortification, followed by sudden fatality. The less they are tampered with the better; and we must particularly

* *Dr. Good's Study of Medicine*, vol. iv. p. 682.

† See *Bateman on Cutaneous Diseases*, p. 336.

denounce, as very dangerous, the application of depilatories for eradicating the tufts of hair on moles; cancer is a common consequence of such empirical applications. None of our readers, we presume, are tinged with the vulgar folly of supposing that moles have any influence on the fortune of individuals, or that this can be interpreted by the jugglery of gypsies.

We believe, to a certain extent, in the influence which a mother's imagination may have over the form and features of her offspring; but we can do this, and reject, with perfect consistency of principle, the absurd stories told of the origin* of wine-spots, cherry-spots, currant-spots, mulberry-spots, grape-spots, strawberry-spots, raspberry-spots, leaf-spots, bacon-spots, and spider-spots, often found on the skins of children at birth.† Such spots are more commonly found on the face, neck, head, and upper extremities, than on the trunk, or lower parts of the body, and they all consist of a thick cluster of blood-vessels—*arteries*, when the spots are of a bright red, and *veins*, when purple or any other dark colour predominates. The brightness or deepness of the colour is caused by the crowding of the vessels, and the extreme thinness of the skin which

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* Surgeons call a spot of this kind a *Nævus maternus*.

† See *Sutleffe's Medical and Surgical Cases*, p. 337, for a very singular explanation of their origin.

covers them. The common vulgar origin of birth-marks is supported by observing, that they become brighter at the season the fruit is ripe, which they are supposed to resemble. If this observation had been more accurate, it would have discovered that the colour of the mark increases with the stimulus of the summer heat; and if the general health be at any time deranged, or if the current of the blood be increased by hot rooms, high-seasoned dishes, or wine, the same increase of colour will appear on the birth-mark, as during the season of grapes, currants, cherries, or strawberries.

It is still more dangerous to tamper with red or purple birth-marks, than with moles; for the clustering of the blood-vessels sometimes extends to a greater depth than may be imagined, and if the mark is bruised or wounded, a dangerous bleeding may follow, or an unsightly tumour. Mr. Abernethy has been sometimes successful in removing them by continued pressure;* and Mr. Langstaff by caustic;† while Mr. John Bell, Mr. Wardrop, and others, fairly cut out the parts with a knife,—the best and safest method, where all the affected parts can be easily reached. The late Mr. Alan Burns successfully cut out a mark of this kind, which covered part of the right eye and cheek, like the wattles of

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* *Abernethy's Surgical Works*, vol. ii. p. 224.

† *Quart. Journ. For. Med.* vol. iv. p. 304.

a turkey cock.* Mr. Langstaff was successful in cutting away the greater part of the upper lip of a child, three months old, who was hideously disfigured in a similar way.† In all such cases, we strongly recommend applying to a skilful surgeon, as, otherwise, dangerous consequences may follow.

3. ERUPTIONS ON THE SKIN.

The finest complexion, which nature ever produced, is often marred by pimples and other eruptions, which are always, though often erroneously, considered to be an indication of irregular living. It will not be necessary for us to enter upon all the numerous species of eruptions, mentioned by the learned, as we mean not to furnish a complete treatise on the diseases of the skin; but, omitting the great mass of these, we shall save room to describe more minutely, those which are considered to be particularly injurious to the beauty of the skin. We shall begin, therefore, with the eruption which, without being painful or otherwise troublesome, is considered to form a very unsightly appearance on the face; we mean,

PIMPLES.

Pimples were called by the old surgeons *gutta*

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* *Alan Burns, Surg. Anatomy of the Head and Neck.*

† *Ut supra.*

rosacea, or "rosy drop;" the French term is *Couperose;* and the modern doctors use the word *Acne*. Very slight observation will readily point out to any one that there are several distinct varieties of pimples, very different in appearance, and, probably, depending upon different causes. We shall, therefore, describe those several varieties, with their causes, and the best remedies for their cure.

In describing the moisture which softens the skin, we mentioned that this is furnished by numerous little fountains or glands, immediately under the skin, from each of which a small hair-like pipe carries out the fluid. *(See the vignette in page 97.)* Now these glands, you are to remark, are very numerous and large on the face, and particularly about the sides of the nose, where you may readily see, in most persons, the openings of the moisture-pipes.* The knowledge of these facts will lead us, by a plain and direct path, to the origin and cause of the various sorts of pimples.

THE WORM PIMPLE WITH BLACK POINTS.

The first sort of pimples, which we shall denominate worm pimples, are learnedly called, by Dr. Willan and Dr. Bateman, *Acne punctata*. This sort is very common and very annoying to females, from the age of fourteen and upwards, as they give the

* See the vignette, page 97, fig. 3.

skin a dirty greasy appearance, which no washing will remove. They originate in the obstruction of the pipes we have just described, the moisture in which, not getting a free passage, becomes thick, and closes altogether the mouth of the pipe, where the greasy moisture, thickened, as we have seen, catches and combines with the dust, and other impurities floating in the air, and is soon rendered black. If, at this stage of the formation of the pimple, you squeeze it on both sides, between the nails, the thickened matter contained in the little pipe will escape in the form of a small white worm, with a black head—which is nothing more than dust, &c. caught and retained by the part of the matter which had been exposed. The vulgar opinion, therefore, that such pimples are caused by worms or grubs, is quite erroneous.

Those who are subject to this form of the disorder, have, usually, from three or four to the number of some dozens of such little black points on the sides of their nose, on the upper lip, the chin, the forehead, and, sometimes, on the cheeks and temples. The skin between these is, also, for the most part, though not always, greasy and foul.

The best means of removing the worm pimple, is by squeezing out all the thickened matter of each; for, unless you do this, it is impossible to get rid of them, as no wash nor other application will remove them, nor will they ever disappear of their own ac-

cord. But, though no wash will remove them, when once formed, several things of this kind may be useful in preventing their return. Of these, the Roman balsam, page 114, is a safe and excellent application, and daily rubbing the parts very gently with a soft glove, or with the warm hand. If these are not effectual, the means recommended for the next variety may be tried.

The greasy disposition of the skin, and its tendency to form the black-headed worm pimples, for the most part, depend on bilious disorders or on indigestion, acidity, or some derangement of the stomach. Purgatives, sulphur, and the whole tribe of worm drugs, so often given to remove the pimples, in all cases increase them. The best treatment of such disorders, and of the unnatural hunger which frequently accompanies pimples, will be found in the little work called, *Medical Advice*, which we have before referred to. Dr. Underwood recommends carbonate of potash; and Dr. Willan oxymuriatic acid, which, we doubt not, may have some effect.

THE SMALL RED PIMPLE.

This is the sort which Dr. Willan called *Acne simplex*, and Dr. Darwin, *Gutta rosea hereditaria*; believing that it was often hereditary, or, at least, had seldom any apparent cause, like the other species. The cause, however, is much the same with

what we have just described, in the case of the worm pimple, but operating a little more actively, or, rather, proceeding a stage farther. The little pipes, in the present case, are not only obstructed, but become inflamed, swell, and form a small, hard, red pimple, painful to the touch, and sometimes a little itchy, or giving, says Dr. Biett, a "slight feeling, as if an insect were creeping over the skin."* In this species, the pimples appear singly, and are not very numerous, and the intermediate skin is unaffected. They are most liable to appear upon the cheeks, nose, and forehead, though they sometimes spread over the shoulders and upper part of the breast. The inflammation is not violent, and they suppurate slowly. Many of them do not suppurate, nor form matter at all; but gradually swell, and again slowly subside in about eight or ten days, and leave a purplish red mark on the skin, which gradually disappears.† Others go on to a partial suppuration, which continues from ten days to three weeks.

At the commencement, when the pipe begins to be obstructed, there may be felt under the skin a little ball, like a small hard seed, about the size of a pin's head, which gradually enlarges for three or four

* "Un fourmillement à peine sensible." *M. Biett, Dict. de Med.*—Article, *Couperose*.

† *Bateman on Cutaneous Diseases*, p. 200.

days, when it begins to inflame, and about the sixth or seventh day comes to its greatest size, and is then swelled, prominent, red, smooth, shining, and hard, and painful to the touch. After two or three days more, a small speck of yellow matter appears on the summit, and when this breaks, and the matter escapes, a thin humour follows, which soon dries into a yellowish crust. The inflammation now gradually declines, the size and hardness of the pimples diminish, the crust becomes loosened at the edges, and, at last, falls off about the end of the third week. The pimples, which appear in succession, pass through a similar course.*

When the disorder has once occurred, it is very apt to continue, or to go off and return at uncertain intervals. In some cases, it never wholly disappears, but is at one time more troublesome than at another, though the person appears, as Dr. Darwin remarks, to enjoy good health; and it is remarkable, that the health is generally best when the pimples are worst This appearance of good health, however, we should be much disposed to look upon as a deception; for, if pimples are numerous, and continue obstinately, we may be almost certain there is some disease lurking *en masque* about the liver or stomach. We infer this, from the immediate effects often produced on the face by such disorders. Dr.

* *Bateman*, page 281.

Darwin says, that an eruption of pimples often follows a surfeit, or the drinking of cold water or milk, or eating cold vegetables, such as salads; and when pimples have been so produced, he says, they sometimes continue to old age. One case of a lady, he mentions, who had pimples produced on her face by taking vinegar. Dr. Bateman has known similar instances, in which violent exercise, hot rooms, and gormandizing, produced pimples. We think that sexual disorders and excesses are a much more frequent cause of pimples than is usually supposed. Biett and Alibert have observed it very commonly in young people of both sexes, as well as in men, from the age of thirty to forty, and in women at the critical period.*

DANGER OF REPELLENT COSMETICS.

As many of our readers may be led to try certain advertised cosmetics, for removing pimples, we think it proper to forewarn them, that these are often dangerous, and may often prove fatal. Gowland's Lotion, Kalydor, Cold Cream, and all such nostrums, ought, therefore, to be used with great caution, when you are altogether ignorant of their composition. As example, however, may go farther with some than precept, we shall mention a few cases which

* *Dictionnaire de Médecine;—Couperose.*

fell under the observation of the celebrated Dr. Darwin.

Mrs. S. being much troubled with pimples, applied an alum poultice to her face, which was soon followed by a stroke of the palsy, and terminated in her death. Mrs. L. applied to her face, for pimples, a quack nostrum, supposed to be some preparation of lead. Soon after, she was seized with epileptic fits, which ended in palsy, and caused her death. Mr. Y. applied a preparation of lead to his nose, to remove pimples, and it brought on palsy on one side of his face. Miss W., an elegant young lady, of about twenty, applied a cosmetic lotion to her face, for small red pimples. This produced inflammation of the liver, which it required repeated bleeding, with purgatives, to remove. As soon as the inflammation was subdued, the pimples re-appeared.*

BEST TREATMENT.

The ancient Greeks and Romans applied mild stimulants, such as the emulsion of bitter almonds with myrrh, resin, or alum, or the bruised roots of the lily and narcissus.† Dr. Bateman agrees to the efficacy of these, but prefers spirits and distilled waters; taking care to use a smaller proportion of

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* *Darwin's Zoonomia, Cl.* II., 1. 4. 6.

† *Celsus De Med.* VI. 5. *Oribasius, De Loc. Affect.* IV. 51.

the spirit when there is much inflammation, and making it stronger when the inflammation is indolent and slow. One of the safest applications, perhaps, is,

DR. BATEMAN'S SULPHUR WASH.

Break one ounce of sulphur, and pour over it
one quart of boiling water;

Allow it to infuse for twelve or fourteen hours, and apply it to the face twice or thrice a-day, for a few weeks. It is excellent for removing the roughness of the skin which usually succeeds pimples.

A stronger application, when such is found necessary, may be prepared from vinegar and the acetated liquor of ammonia, or the spirit of Mindererus; or you may try

SIR WILLIAM KNIGHTON'S LOTION.

Take half a drachm of liquor of potass,
three ounces of spirit of wine;

Apply to the pimples with a camel's hair pencil. If this be too strong, add one half pure water to it.

Dr. Darwin strongly recommends blistering, and, where it is considered worth trying, we have little doubt of its success; though it is a rather more severe remedy than most people would submit to. It is not necessary that the whole face should be blistered at once, and it is better to take the parts af-

fected gradually. Lady Mary Wortley Montague used Balsam of Mecca for this purpose, but a common blister will answer, perhaps, better. Dr. Darwin recommended this plan to Miss L., a young lady about eighteen, who had her face covered with pimples, and had tried all other prescriptions in vain. She blistered her face by degrees all over, and "became quite beautiful;" when any pimples afterwards re-appeared, she covered the part at night with mercurial plaster, made without turpentine, for the turpentine is liable to inflame the face. She retained it on with a pasteboard mask, and if any stuck to the skin it was removed with oil or butter. You may prepare the remedy in the following manner.

DR. DARWIN'S OINTMENT FOR PIMPLES.

Take six drachms of mercury,
six grains of flour of sulphur,
two ounces of hog's lard;
Mix them carefully in a mortar.

Mr. Plumbe condemns all these remedies, as either tending to aggravate the disorder, or as too severe; though he has no such compunctious visitings of conscience in other cases, where he himself steps forward as an inventor, as we may afterwards find. We think, that his system, however, is, in all cases, worthy of trial, as it is, at least, safe. Mr. Plumbe

then advises the frequent bathing of the parts with warm water, and gently rubbing them with the mildest kind of soap, and the hand, or a soft brush.* MM. Biett and Alibert speak highly of the vapour and sulphureous baths, the steam being directed, for twelve or fifteen minutes, to the parts affected, as often as may be found necessary.

The constitutional treatment which is the most to be depended on for a permanent cure, is, attending, as nearly as possible, to the diet and regimen laid down below for beauty-training, and correcting the tendency to bile, flatulence, and acidities, by the treatment so often referred to.† The local means, without the constitutional treatment, can only be of temporary advantage, and can never be depended on for a permanent cure.

THE LIVID BUTTONY PIMPLE.

This species is denominated *Acne indurata*, by Dr. Willan and Dr. Bateman, and chiefly differs from the last-mentioned by the larger size of the pimples, and their more tedious continuance. The cause is evidently the same; but the constitution of the individual different. They very usually occur in those who are affected with piles, which are well known

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* *Plumbe, on Diseases of the Skin*, p. 35.

† See above, p. 75; *Medical Advice in Indigestion*, p. 38; and *Oracle of Health*, vol. ii. pp. 90 and 207.

to depend on disorders of the stomach or bowels, and on bilious, or other diseases of the liver. In women they are a frequent concomitant of female irregularities and obstructions, and, when this is the case, no time should be lost in following the advice given at page 107 above, and particularly the admirable remedy of Dr. Lavagna. In some instances, the health does not seem to be affected; but, even in these cases, as we have remarked under the last species, some lurking disorder of the liver or stomach may always be suspected, and ought to be carefully watched and remedied.

Dr. Bateman describes this species as larger, harder, and more permanent, than the preceding; and they may always be distinguished by their dull red, or livid, purplish, colour. They often rise, in considerable numbers, of a conical, or oblong conoidal, form, and are occasionally somewhat pointed, as if tending to immediate suppuration, being, at the same time, of a bright roseate hue; yet many of them continue in a hard and elevated state for a great length of time, without any disposition to suppurate. Others, however, pass on very slowly to suppuration, the matter not being completely formed in them for several weeks, and thus only a small part of the pimples are removed by this process. Sometimes two or three pimples coalesce, forming a large irregular button, which occasionally suppurates at the separate points, and

sometimes only at the largest. In whatever mode they proceed, the vivid hue of the pimples gradually becomes more purple, or even livid, especially in those which show no tendency to suppurate. Slight crusts form upon the suppurated pimples, which, after some time, fall off, leaving small scars, surrounded by hard buttons of the same dark red colour; and these sometimes suppurate again, at uncertain periods, and sometimes slowly subside and disappear, leaving a faint purple, or livid discoloration, and occasionally a slight depression, which is long in wearing off.

The pimples, even when they do not suppurate, but especially while they continue highly red, are always sore and tender to the touch; so that washing, the friction of the clothes, &c., are somewhat painful. In its most severe form, this eruption nearly covers the face, breast, shoulders, and top of the back, but does not extend lower than an ordinary tippet in dress. Yet this limitation of the disorder is independent of the exposure of those parts; for it occurs equally in men and women. In a few instances of young men, Dr. Bateman has seen an extensive eruption of this kind affecting these covered parts, while the face remained nearly free from it. By the successive rise and progress of the tumours, the whole surface, within the limits just mentioned, was spotted with red and livid pimples, intermixed with the purple discolorations and

depressions, left by those which had subsided, and variegated with yellow suppurating points and small crusts, so that very little of the natural skin appeared.*

BEST TREATMENT.

The livid buttony pimple may be advantageously treated precisely as in the last case, with this difference,—that we may here make the lotions more piquant and stimulating, as being the best thing to promote the suppuration of the pimples. Mr. Plumbe affirms, indeed, that there is always some little suppuration, and a small collection of matter,† though it is too deep seated to be squeezed out, and too severe a measure to have recourse to the lancet. The French practitioners use very strong stimulants, such as muriatic acid, and nitrate of silver; but these we should prohibit, except in the most skilful hands, and in a weak state of dilution. Mr. Plumbe recommends the pimples to be pricked with a needle or a lancet, in order to irritate them, and spur them on to suppuration. When this has been accomplished, the matter is to be squeezed out, and, if any blueness, or hardness, remain, sponge the part slightly, three or four times a day, with

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* *Bateman*, p. 288.

† *Plumbe, on Diseases of the Skin.*

MR. PLUMBE'S PIMPLE WASH.

Dissolve two grains and a half of oxymuriate of mercury in
four ounces of spirit of wine;
Keep it in a close-stopped phial for use.

It would be altogether unnecessary to enlarge farther on the treatment, as careful attention to what we have directed for the preceding species will be equally useful in this, particularly the constitutional treatment, and the beauty-training.

BARDOLPH PIMPLE OR ERUPTION.

We are quite certain, that none of our fair readers, —at least, under the age of fifty,—will require to look into our remarks on this species. We had some thoughts, indeed, of omitting it entirely; but we would rather that our little book contained a few supernumerary pages, than that it should be considered deficient in any point, or imperfect. Dr. Willan and Dr. Bateman call the Bardolph eruption, *Acne rosacea*. In many instances it cannot, with propriety, be considered a species of pimple, being rather an extensive efflorescence of the skin. It never, or rarely, occurs from the same causes, or in the same constitutions, as the three preceding varieties, but usually appears in those who have been long accustomed to high-seasoned food and made dishes, who have indulged in pickles, and,

more particularly, in habitual potations of wine, ale, or other strong liquor. It is a very common attendant on the gouty, and on those who have disordered their livers and bilious system by indolence and high living, or a residence in hot climates.

The immediate cause is, however, much the same at first as in the preceding three varieties, and the nose become sfirst affected, because the little moisture-pipes are obstructed, and the skin, in consequence, partially irritated and inflamed. It is only, however, after long-continued or repeated attacks that this establishes it, and becomes, what may expressively be called, the Bardolph eruption.

In addition, says Dr. Bateman, to an eruption of small suppurating pimples, there is, also, a shining redness, and an irregular bumpy appearance, of that part of the face which is affected. The redness commonly appears first at the end of the nose, and afterwards spreads from both sides of the nose to the cheeks, the whole of which, however, it very seldom covers. In the commencement, it is not uniformly vivid, but is paler in the morning, and nearly increased to an intense red after dinner, or at any time, if a glass of wine be taken, or any sort of spirits, or the patient be heated by exercise, or sitting near a fire. After some continuance in this state, the texture of the outer skin becomes gradually thickened, and its surface uneven, or buttony, and variegated by a net-work of enlarged veins,

with smaller red lines, stretching across the cheeks, and, sometimes, by the intermixture of small suppurating pimples, like the second variety above described, which successively arise on different parts of the face.*

According to Mr. Plumbe, collections of matter are frequently concealed under a smooth, red, buttony swelling for weeks together, without its existence being suspected. From the protraction of the complaint, every part of the tip and sides of the nose is affected with such eruptions, and the moisture-glands and their little pipes become completely destroyed. A careful examination of the parts, in the earlier stages of the disease, will, in most cases, lead to the detection of small and deep-seated collections of matter, which, upon being let out with a needle, or the point of a lancet, will cause the swelling and redness of the skin to disappear; and, if the fomentations of warm water and frictions with mild soap and a soft brush be persevered in, along with plain diet, and abstinence from high-seasoned dishes, pickles, cayenne, mustard, and strong liquors, a cure may, in time, be affected. The acidity of the stomach, so usually present in cases of this kind, must be treated as so often directed in the foregoing pages.

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* *Bateman*, p. 292.

NETTLE RASH.

This disorder is variously denominated by medical writers, *Urticaria* and *Roseola*, and always arises in consequence of the close companionship between the skin and the stomach and bowels, from some acid, acrid, or irritating food, or drink. Among the things which induce this rash, have been enumerated,—vinegar, mushrooms, honey, almonds, the kernels of cherries and other stone fruit, green cucumber with the skin on, lobsters, crabs, shrimps, muscles, oysters, pork, &c. Sir Anthony Carlisle informs us, that he cannot taste fish without suffering an eruption within a few hours.

The affection appears sometimes in large, and sometimes small, patches, of a fine crimson, on the face, the ears, the shoulders, and other parts of the body; and, according to Fuller,* is more ludicrous than dangerous. There is sometimes a swelling, or wheal, with a hard border, of a paler colour than the surrounding rash in the centre of the patches; but this is not always present. A disagreeable tingling, or itching, usually accompanies it. It occurs, for the most part, in spring, summer, and autumn, in irritable constitutions. No other treatment is required, than freely opening the bowels; and, if it is severe, or obstinate, taking a gentle emetic. It

* *Fuller's Exanthematologia*, p. 128.

sometimes continues only a few days, but it is very apt to return, and is occasionally very troublesome to get rid of. In such cases, the diet must be carefully attended to, and cooling medicines, such as the elixir of vitriol, employed.

TETTER AND RINGWORM OF THE FACE.

These are two varieties of the disorders of the skin, which medical men call *Herpes*,* and the vulgar rank among the numerous forms of *Scurvy*, as caused by foul blood. The ringworm here meant is, however, very different from the contagious ringworm which affects the hair, and which will come to be noticed when we are treating of the hair. Like most of the preceding eruptions, these affections of the skin are caused by disorders of the stomach and bowels, which both derange the skin through the influence of companionship, and by deteriorating the blood which supplies it with nourishment. Young people, from the age of twelve to twenty-five, are most frequently the subjects of the disease, although the aged are not altogether exempt from its attacks. Some authors, says Dr. Bateman, ascribe its appearance to anger and irritable temper; it would be more just to refer it to the nervous or

* *Herpes* is from the Greek ἕρπειν, which signifies, "to creep, or spread," as tetter always does.—*Actuarius Meth. Med.* ii. 12.

bilious disorders, which always lead to this disposition of mind. The suppression of perspiration, in consequence of a common cold, sore throat, or catarrh, and after fatigue, or loss of sleep, is, also, very often followed by an eruption of tetter around the mouth, or about the nose. Female obstructions and irregularities, as well as piles, are said to be a frequent cause.

Tetter is generally preceded by headache, pains in the limbs, slight shivering alternating with flushes, and other feverish symptoms. A sort of stiffness and tingling pain, with slight itching, soon begins to be felt where the tetter, or ringworm, is about to appear, and the part soon becomes red and inflamed. Little blisters, or vesicles, then appear in clusters upon the inflamed part, which is very often upon the edge of the upper and under lip, and at the angle of the mouth, sometimes forming a semi-circle, or even completing a circle, round the mouth; whence the name of ringworm. It is, also, very common on the tip or sides of the nose, and sometimes on the chin. At first the little blisters, or vesicles, contain a transparent fluid, but, in the course of twenty-four hours, it becomes muddy, turbid, and yellowish white, and, at last, is changed into thick brownish yellow matter. The lips, or other parts affected, become red, hard, and swelled, as well as sore, stiff, and painful, with a sensation of great heat and smarting, which continues troublesome for three or

four days, till the matter escapes, and forms thick dark crusts. If these are picked off, a kind of viscid, gummy, transparent matter succeeds, and encrusts the parts anew. If it is let alone, the swelling subsides, and, in four or five days, the crusts begin to fall off; the whole duration of the eruption being about ten or twelve days.

As the disorder always runs a regular course, it is not only useless, but hurtful, to attempt to stop it after the blisters have appeared, because it is impossible to stop them from forming, and any application intended for this purpose will only make them longer of healing. When the stiffness of the parts, however, gives warning of the approach of tetter, it may sometimes be prevented by stimulants, such as the Eau de Cologne, or the

STRAWBERRY LOTION.

Put into a phial, containing half-a-pint of brandy, as many strawberries as it will hold, cover the mouth with a piece of bladder, let it stand for a week in the sun, and then strain it through a linen cloth; put in more strawberries, as at first, and add half-an-ounce of camphor; apply a pledget of linen, soaked in this, to the parts.

The tingling, smarting, and burning heat, when very troublesome, may be reduced by sedatives, such as sugar of lead-water, or water in which a little nitrate of potass has been dissolved. These only

lessen the pain, but, as Mr. Plumbe justly remarks, they never check the course of the tetter, nor lessen its duration. If the little vesicles, or blisters, however, are rudely broken, the sore that follows is longer of healing. But if each individual vesicle be carefully pricked with a needle, and the fluid evacuated before it becomes milky or coloured, the pain will be diminished, and the irritation sooner reduced.*

With respect to the constitutional treatment, you must be directed by the causes; but we must caution you against the vulgar notion of purifying and sweetening the blood, as it is called, by scurvy grass, cresses, and other cold vegetable substances; for these, in all cases, tend to increase, rather than to diminish, the evil. The plan of treatment, which will be certain to improve the blood, and purify the skin, from all such eruptions, we shall now lay down under the title of Beauty-training, as the newest and most effectual discovery ever made for the improvement of the complexion, and for restoring, at the same time, the health and strength of the weakest and most nervous invalid. We copy the rules from *The Oracle of Health*.

4. BEAUTY-TRAINING, AND ITS RULES.

Leaving diseases altogether out of the question, we can recommend training to our fair readers as

* *Plumbe, on the Skin*, p. 250.

the only certain and infallible means ever discovered for improving the brightness of the eyes, and the clearness and transparency of the complexion. Lest, however, we should be misunderstood in this, we solemnly declare, that we are not admirers of barn-door beauties, with great ruddy and rosy cheeks; nor city beauties, puffy, punchy, and puffed, as if they were Falstaff's great grand-daughters; nor hot-bed beauties, ghost-like and fleshless, with neither roses nor lilies to boast of on their pale and unsunned faces. This being our negative creed of beauty, we say, that training will, to a certainty, abolish one and all of these unbeautiful characteristics. The training, which we are about to describe, will diminish the superfluous rosy colour of the face; which, we may remark, is not so much a sign of high health, as it is too commonly supposed, but is closely allied to inflammatory diseases, and sudden death in consequence. Save us, say we, from rosy cheeks and fatal inflammations. Our art will, in the same way, as certainly remove all unhealthy, greasy, and pale-livered corpulence, and their sickening effluvia; and will render plump and pretty, the most meagre skeleton figure that ever was the victim of fretting, fidgets, or nervous low spirits.

In one word, training is all-powerful in beautifying the worst and plainest complexion, and rendering it soft, delicate, and transparent, like the natural healthy hue of opening youth; while at the same time it improves the health, strength, and all the

finest feelings of pleasurable enjoyment. To those beauties particularly who are beginning to lose their earlier admirers, we most strongly recommend it as capable of insuring them an additional ten years of youth and cynosureship,* and even of restoring at least five or ten years of vanished charms. To keep you no longer in suspense, we shall now teach you this wonder-working art; and if, after following it rigidly for at least two months or more, you do not find that our account of its effects are genuine and true, we shall henceforth resign the task of teaching the art of Beauty-Training.

In this case you have no quack nostrums to buy at an extortionable rack price, and with the absolute certainty of their failure, if not of their doing you injury. No Kalydor, Gowland's Lotion, and similar trash, can ever do any thing but injury; and before you commence training, you must rigorously give up all such, after a preliminary emetic and purgative, which are always to be taken at the commencement of training, to clear the stomach and bowels. The first injunction we lay upon you is, that you must rise at six o'clock every morning, or at five if you please, but not sooner. Before breakfast you must walk in the open air from half a mile to three miles, according to your strength, at a quick pace; and if you botanize by the way, it will be of immense ad-

* The *cynosure* of neighbouring eyes. MILTON.

vantage; or in winter, when you cannot do this, if you note the state of the clouds according to the classes of Mr. Luke Howard. If you have perspired so as to damp your clothes, or if you have wetted your feet, you must change and have all dry before breakfast; and it is also indispensable to have your skin, particularly over the stomach, well rubbed with a soft cotton cloth, or a flesh brush, for ten or fifteen minutes before breakfast, and to wash your hands and face in cold soft water.

The breakfast itself—not later than eight o'clock—ought, in rigid training, to consist of plain biscuit (not bread), broiled beef steaks or mutton chops, under-done, without any fat, and half a pint of mild bottled ale,—the genuine Scotch ale is the best. Our fair readers will not demur to this, when they are told that this was the regular breakfast of Queen Elizabeth and Lady Jane Grey. But should it be found too strong fare at the commencement, we permit, instead of the ale, one small breakfast cup—not more—of good strong black tea or of coffee—weak tea or coffee is always bad for the nerves as well as the complexion. If tea or coffee is taken, the half pint of ale is to be used three hours after breakfast with a biscuit, on returning from your second walk, which must be as long as the first.

The forenoon must be spent in walking, or any other active amusement out of doors, such as gardening, nutting, romping, &c.; dinner at two, the same

as breakfast; no vegetables, boiled meat, nor made dishes being permitted, much less fruits, sweet things, or pastry. Those who are very delicate may begin with a bit of broiled chicken or turkey, but the steaks and chops must always be the chief part of your food. A mealy potatoe, or a little boiled rice, may now and then be permitted, but no other vegetable.

The afternoon should be spent in amusement in the open air, as before, and supper at seven or eight as most convenient, at which we allow you tea or coffee, if you have had none to breakfast; if you have, you must take your half pint of mild ale, and a bit of cold fowl, or cold roast mutton or beef, but no fat. Butter, cream, milk, cheese, and fish, are prohibited. You may take an egg occasionally with a biscuit. At meals you may eat heartily, but nothing is allowed between, not even drink, and thirst must be allayed without drink, by bathing the hands and face in cold water. You must always take at least an hour's active exercise before going to bed, and have your feet bathed in tepid water, and your whole skin rubbed with a cotton cloth or the flesh brush. Go to bed not later than ten.

Except in the case of the very delicate, we can relax nothing of these regulations; and recollect, that whatever rule is broken will tell to the disadvantage of the complexion, for you cannot in conscience expect improvement in beauty, while you do not pay the price of obedience. Recollect, that for

the first week or fourteen days, you may lay your account with feverishness, thirst, headache, and want of appetite; but if you persevere, this will go off, and your spirits will improve rapidly.

Closely allied to this subject is the effect which certain female complaints have on the beauty of the complexion, and the brightness of the eye. With this view, we cannot too strongly recommend Dr. Lavagna's Female Lavement, given in a preceding page, as by far the best ever tried in removing such complaints. This, in all cases where the complexion has become sickly and ghost-like, and the eye sunk, rheumy, and lustreless from irregularities, suppression, whites, &c. will be almost certain to prove successful. Indeed every lady, before beginning to train, ought to correct all irregularities or disorders of her system, by the use of Dr. Lavagna's remedy, otherwise we can promise nothing, at least in regard to the beauty of the complexion, and the healthy brightness of the eye. Even without training, indeed, Dr. Lavagna's remedy will often effect wonders in the improvement of beauty.*

EFFECTS OF TRAINING ON THE SKIN.

The diseases of the skin have always puzzled the doctors, and baffled all their drugs—with the exception, perhaps, of itch, which can always be cured to

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* *Oracle of Health*, vol. ii. p. 30.

a certainty by the warm bath, and sulphur ointment. But pimples, whether of the hard, buttony, purple sort, or the little red painful ones, containing white, or yellowish matter; or the kind with little black heads and thick humour, that squeezes out in the form of a small worm, and is vulgarly mistaken for such—all these, and most sorts of eruptions, are usually an ass's bridge over which the doctors cannot pass. The quacks are equally non-plussed; and though Mrs. Vincent puffs her Gowland's Lotion, and Rowland and Son their Kalydor, they all end in leaving the patient's purse lighter, and the eruptions or the pimples the same or worse.

It is an old opinion, and, we believe, partly a just one—though it is sneered at by our fashionable doctors, as an old woman's prejudice—that the eruptions on the skin are, in some measure, caused by foul blood. The blood, you know, supplies and repairs all the worn-out parts of the body, and as the skin is much exposed, from its situation, to extensive tear and wear, if it is not regularly supplied with its portion of pure and healthy blood, the consequence will be blotches, pimples, and all sorts of foul eruptions, directly produced by impure and bad blood; for it is utterly impossible that the skin can remain sound and healthy, while the blood, by which its worn-out parts are daily and hourly repaired, is weak, watery, or loaded with impurities. If the blood, accordingly, be thick and foul, you may ex-

pect blotches and buttony pimples; and if it be thin and watery, you may expect eruptions of an itchy watery character.

Now, as the chief effect of training is to enrich and purify the blood, you must at once see, that it will have a powerful effect in producing a healthy state of the skin, in so far as the repairs effected by the blood are concerned. But there is another point of view, no less important than this, in which the effects of training on the skin are to be considered. The healthy condition, you are aware, not only of the skin itself, but of the whole body, depends on the healthy state of the pores or moisture-pipes, by which a large proportion of the waste and refuse of the body escapes in the form of insensible perspiration. Now, this refuse that comes to the skin, with the intention of obtaining a free passage by the pores, must be stopped there, if the pores are shut or obstructed, and, of course, an eruption will be the natural consequence, if the refuse, as is often the case, is not carried inwards again by the absorbents, in which case, an internal disease will be the result, as happened in the cases related above, page 135.

We need scarcely go farther in detail; since the powerful effect which training has upon the skin, in opening its pores, and bracing it into elasticity of tone, is well known. Exercise—the brisk exercise which constitutes so essential a part of training, acts

like a charm upon the most harsh, rigid, and obstructed skin, and makes it soft and supple, while the bathing, sponging, and friction, clear away all external impurities.

Such is our philosophy, and we confess that the argument and the deductions have been drawn up, in a great measure, according to the plan, called, by logicians, *à priori*—a very absurd expression, as most Latin phrases are, which are lugged in, like this, to puzzle a plain reader, and conceal the ignorance of the writer; but as we know nothing at present more pat to our purpose, than this same logical *à priori*, absurd as it is, we give you free leave to pitch our philosophy of the thing whither you please, while you may content yourself with the simple and undoubted fact, that training uniformly and always makes the skin pure and transparent, and is, of course, the greatest aid to beauty of complexion hitherto discovered. No eruptions, blotches, nor pimples, even those which have baffled all medicine and medical skill, can withstand its powerful influence, but disappear as if by magic.*

BATHING AND BATHS.

Bathing, along with friction, is an essential part of beauty-training, for clearing the skin of its impu-

* *Oracle of Health*, vol. i. page 482.

rities, and giving transparency and freshness to the complexion. Whoever neglects it, therefore, cannot, with justice, complain of eruptions, and other disorders and affections of the skin. When we come to speak of the breath, we shall show that a large proportion of the refuse and worn materials of the body are carried off by exhalation from the skin, as well as from the lungs; and we need scarcely tell you, that, if this refuse is in any way prevented from being carried off, or is in any way carried back into the system, it will produce derangement and disease—by obstructing, perhaps, the free flow of the blood, in the same way as mud and rubbish will obstruct the free flow of a stream of water. Now, with respect to the skin, the waste of the body passes in the form of vapour or moisture through innumerable small pores in it, and, of course, when these are in any way shut up or obstructed, there is one of the grand outlets of the waste of the body cut off; and if it cannot find another passage, by the bowels or the lungs, it will remain and corrupt the mass of the blood, as the sediment, called bee's-wing, corrupts port wine. Even if it do, in the end, obtain an outlet by the lungs, the kidneys, or the bowels, it must first pass back again by the absorbents and the blood, and a disease may be produced before it can escape.

As these are indisputable facts, you will perceive, at a glance, that one of the most important effects

of bathing is the cleansing the skin, and freeing its pores from obstruction. The waste and refuse of the bones, the muscles, and the blood, which pass through the skin in the form of perspiration, are often arrested on the surface of the skin by dust, and other impurities. The dust and the perspired moisture, consequently, unite, and form an incrustation on the skin thinner than India paper, and often, you must carefully remark, *invisible*. The pores of your skin may then be quite shut by a thin invisible crust of this sort, while you are altogether unaware of its existence, though it be the chief, and, perhaps, the only cause of a sallow complexion, or unhealthy paleness, not to speak of the internal disorders it may occasion.

This is not all. When any thing goes wrong in any part of the body, *Nature*, as some say, or PROVIDENCE, as we prefer to say, immediately sets up a self-correcting, or counteractive, process, to restore things to their proper course; for example, in the case of sneezing, to expel snuff from the nostril, or of vomiting, to expel poison from the stomach. As soon, therefore, as a crust is formed by dust and perspiration on the skin, unless you remove it by washing, the absorbents instantly set about removing it, and carrying it back again into the mass of the blood, which will always produce more or less derangement, or bad health, and the complexion will accordingly suffer.

From this detail you will see the very great importance of bathing the whole body, constantly and regularly, in order to keep the skin clean, and the pores open. This, however, must be taken with limitations; for you must by no means conclude, that, in order to clear the pores of the skin, you may indiscriminately use the warm or the cold bath, or any bath at all. The general principle is merely to cleanse the skin, and you may frequently do this more effectually, and more beneficially, by sponging and the flesh brush, than by general bathing, either cold or warm. As bathing, however, always does cleanse the skin and clear the pores, it becomes of moment to take this into account in our philosophy.*

We have not room here to enter upon the danger of indiscriminate cold bathing, particularly in the case of the nervous and debilitated, who are frequently made the victims of the cold bath, prescribed by medical men, that are unaware of its injurious effects. We refer our readers, for a melancholy history of the fatal effects thus produced, to Dr. Beddoes' *Hygeïa*, and to the *Oracle of Health*,† where, also, proper directions are given for discovering when it is proper, and when improper.

The ingenuity of refinement, with the intention of improving upon baths of pure water, has devised

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* See *Oracle of Health*, vol. i. p. 424.

† See vol. ii. page 16.

various kinds of artificial baths, by adding aromatic herbs and other substances. Borax, when so added to a bath, is said to give a peculiar lustre to the skin, and for this purpose it is used in Egypt and the East.

The story of Æson becoming young, from the medicated baths of Medea, seems to have been intended to teach the efficacy of warm bathing, in retarding the progress of old age. The words relaxation and bracing, which are generally thought expressive of the effects of warm or cold bathing, are mechanical terms, properly applied to drums or strings; but are only metaphors, when applied to the effects of cold or warm bathing on animal bodies. The immediate cause of old age seems to reside in the irritability of the finer parts, or vessels, of our system; hence, these cease to act, and collapse, or become horny or bony: the warm bath is peculiarly adapted to prevent these circumstances, by increasing our irritability, and by moistening and softening the skin, and the extremities of the finer vessels which terminate in it. To those who are past the meridian of life, and have dry skins, and begin to be emaciated, the warm bath, for an hour twice a week, we believe to be eminently serviceable in retarding the advances of old age.

On this principle, when Dr. Franklin, the American philosopher, was in England, many years ago, Dr. Darwin recommended to him the use of a warm

bath twice a week, to prevent the too speedy access of old age, of which he then thought he felt the approach, and to relieve infirmities under which he actually laboured. It gave him considerable ease, in a disorder with which he was afflicted, (the stone,) and answered the other purposes for which he used it; for he died at an advanced age, having, for many years, been in the constant habit of using the tepid bath.

Poppæa, the mistress of the Emperor Nero, always bathed in asses milk, and, for this purpose, she usually had, at least, fifty she-asses to supply her extravagant luxury. An imitation of this bath has long been celebrated, under the name of the milk-bath, or,

BATH OF MODESTY.

Take four ounces of sweet almonds, peeled,
one pound of pine-apple kernels,
one pound of elecampane,
ten handfuls of linseed,
one ounce of marsh mallow roots,
one ounce of white lily roots.

Pound all these till reduced to a paste, and tie it up in several small bags, which are to be thrown into a tepid bath, and pressed till the water becomes milky.

A more simple method of preparing a bath of

this kind, is given by M. Moreau de la Sarthe,* who says, it is sufficient to throw into the bath a sufficient quantity of almond paste, to give the water a milky appearance.

ANCIENT AND MODERN BATHING.

It is often mentioned, as a reproach to the moderns, that they do not bathe so systematically as was the custom among the ancients; but we have not, hitherto, seen it remarked that there is much less necessity. The ancient Romans all wore woollen next the skin, and were unacquainted with the luxury of linen in their under dress. Their skins must, accordingly, have always been greasy, irritated, and uncomfortable, as is now the case with those who wear flannel, from a mistaken notion, that it is beneficial to health. In some peculiar instances of consumptive habits, deranged liver, or bilious disorders, this may undoubtedly be the case; but it is the worst possible clothing for the nervous and debilitated, as it both aggravates such complaints by irritation, and particularly injures the beauty of the skin. The skin, you are to remark, is so circumstanced, that if you produce a greasy irritable state in one part of it, this will spread to others, as water does through blotting paper. Many a lady, in this way, injures the beauty of her face, and renders her complexion greasy, sallow, and covered with pimples and other eruptions, by the improper use of

* *L'Hist. Naturelle de la Femme, par M.* DE LA SARTHE.

flannel. It is the abuse, however, and not the proper use of flannel, which we decry. It should never be used next the skin for a continuance, but ought to be applied for a time, precisely like a blister; for it acts on the very same principle,—that of irritating the skin, bringing to it an increased tide of blood, and, consequently, giving the pores, or drainers of the skin, more abundant material to supply perspiration. We should as soon think of prescribing a daily emetic, as a continual dress of flannel next the skin.* We are glad to observe, that the doctors, who introduced and sanctioned this absurd custom, are gradually becoming more rational, and recommending cotton with flannel over it, when additional warmth is required for invalids in cold weather.

The vapour baths of the Russians have lately been introduced, as an addition to our means of purifying the skin, and adding to its beauty; and these have been improved upon by the method of sulphureous fumigation, as first practised, we believe, at Vienna, by Dr. De Carro. We cannot enter upon any detailed consideration of these baths in this place; but must caution our readers not to tamper with them, *unless under the skilful medical advice of some practitioner, who has no interest in the profits*, as, under other circumstances, much mischief has often been produced. The latest and most ingenious improvement is,

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* *Oracle of Health*, vol. ii. p. 251.

CAPTAIN JEKYLL'S VAPOUR BATH.

This apparatus consists of an air-tight kettle, with a safety valve, and a pipe that carries the steam under the chair of the bather into a box, containing any aromatic or medicated materials which may be deemed necessary. The stop-cocks of this steam-box are regulated by the bather with a rod, as is seen in the sketch; and as there is a large cloak or blanket, (made transparent in the sketch, to show the apparatus,) the steam comes in contact with every part of the body.

5. SCARS FROM ACCIDENT OR DISEASE.

When wounds, or other accidents, happen on the

face or neck, the greatest care is required to make them heal without leaving any scar. Proper attention, indeed, might, in many cases, prevent this, and we wish to impress this strongly on our readers. With respect to abscesses, boils, and tumours, which require to be opened by the lancet, the following observations of Sir Astley Cooper are worthy of notice.

"The prevention of scars is a great object, particularly in exposed parts of the body. This may appear of little consequence, but it certainly is not so. Scars, from abscesses, in the necks of females, excite in the minds of most of our sex a reluctance to associate with them; and thus many a fine young woman may, by such scars, be doomed to perpetual celibacy. No part of the practice of surgery has been more faulty, than the manner in which abscesses of the neck have been treated. I have seen, on one side of the neck, large scars from abscesses that had been badly managed; whilst, on the other side, where the treatment had been more skilful, scarcely any vestige of a wound was to be seen. I have, from very early practice, and subsequent experience has proved to me its use, been exceedingly careful in the management of these cases. Aperients, with calomel and rhubarb, should be given; evaporating lotions should be used; you must be strict as to regimen and diet; the food must be nutritive, but not stimulating. The best mode to

adopt in these cases, is to open the abscess before the skin be much affected, and as soon as a blush has appeared; thus scars will, in general, be prevented. It is desirable, in opening the tumour, to use a very fine knife, for two reasons. First:—A small opening is made. Second:—It does not alarm the person. The knife I always use, has the blade an eighth of an inch wide, and it appears to the patient as a needle. When you press the sides of the wound, take care to squeeze out all the solid flakes of matter to be met with in scrofulous tumours. If this be not attended to, they will at last slough; but if, on the contrary, you carefully avoid leaving any of that unorganized substance, adhesion will take place, and the wound will heal. Almost every thing in these cases depends on getting rid of the solid matter. Bread poultices, made with sulphate of zinc lotion and spirits, may be afterwards used.

"There is a point of great importance to be attended to, that is, the direction in which you make the opening. Always make it transversely, and not in the axis of the neck; for when the wound heals, it will scarcely be seen among the creases or folds of the skin. One more observation on this subject. —Let me entreat you not to open these tumours when they have a purple blush upon them, like the hue of a grape. The skin is thin, and will slough; and, if you then open the tumour, you will bring discredit on yourself."

In burns and scalds, the skin is apt to be drawn together in folds, and have a disagreeable mixture of marks, some too red, and others too white. The best method of preventing this, is by healing the sore as speedily as possible, and when any unsightly excrescence is observed to be forming on the scar, to reduce it by caustic. It may not be uninteresting to some of our readers to be informed, that Baron Dupuytren, of the Hôtel Dieu, at Paris, lately succeeded in greatly improving a frightful scar on the face, arising from a burn, by cutting away with the knife the parts which were most unsightly.

SMALL POX AND VACCINATION.

The greatest enemy to the beauty of the skin—the small-pox—was first checked in its career by the perseverance of Lady Mary Wortley Montague, in introducing inoculation; and subsequently, in a great degree, subdued and banished by the great discovery of Dr. Jenner. But the discovery of Dr. Jenner would have been quite superhuman,—would have been an unearthly miracle,—had it been free from all imperfection. We have no such thing in our poor world as perfection without a flaw:—it is impossible,—and whoever aims at it must be disappointed. But there are not wanting many, whose minds and feelings are so perverse and debased, that they fasten upon the slightest defect in our greatest and best discoveries, and multiply it, and magnify it

in their diseased fancies, till, like Satan, in *Paradise Lost*, they make "the worse appear the better reason." In this light we are disposed to view the outcry and *mala fama* raised against vaccination, which, like every thing of human contrivance, is confessedly imperfect; but its triumphs are gloriously emblazoned on the thousands of smooth faces now seen in our streets, that have, within the last twenty years, taken the place of those whose finest features and blooming complexions were marred by the small-pox. Look around you, and say, whether you can now see, in the crowded street, or the crowded assembly, an equal or any thing like an equal number of faces disfigured by small-pox, as might have been seen even ten years ago.

We do not deny,—for the fact is established,—that small-pox have, in a number of cases, succeeded vaccination, in the same way as natural small-pox, in a number of cases, have succeeded small-pox-inoculation.* But in all cases hitherto known, where the vaccination has been perfectly performed, the accidental occurrence of small-pox afterwards (and this is rare, indeed,) has been mild and mitigated—the primary fever being always short, and soon over. The secondary fever (which is most dreaded in small-

* Dr. Graham, of Dalkeith, informs us, that he had a patient who had natural small-pox very severely at three years old, and who, at twenty-three, was again seized with them, and died.

pox) never comes on at all, in the small-pox, after vaccination; and, what is of most importance to our inquiry, no scars are left. The whole disease, in a word, is so mild, and unlike the old small-pox, that it has long been a question whether it is so. This it is of little moment to determine, so long as the disease, whatever it may be called, is so little severe, and so very seldom fatal.

Small-pox, we are quite certain, however, would not occur once in a thousand times, after vaccination, if it were properly performed and tested; and it is owing chiefly to imperfect vaccination, that so much alarm has been created. In order, therefore, to put our family readers in possession of the best information on the subject, we shall state the tests of perfect vaccination.

The matter, taken on the ninth day, and perfectly transparent, being inserted under the skin, will produce, on the *third* day afterwards, a small red spot. On the *sixth* day, it becomes discoloured in the centre. On the *tenth* day it is perfect, and should have a dimple in the centre, and not be raised like a common pimple. Another complete test of its perfection is, that, when pricked by a needle, the contents are not all let out, as in a common pimple, and for this good reason, that the vaccine pustule is composed of many bags, or cells, that do not communicate with one another, while the common pimple has but one bag, or cell. This allows, also, matter

to be taken without destroying the vaccine pustule. Another mark of the genuine vaccine pustule is, that its shape is circular, or oval, and the margin never irregular and jagged, while the outer margin is deeper red than the space within it, and between it and the centre. It should disappear about the thirteenth day, and the scab fall off in a fortnight. If the pustule want these characters on the ninth or tenth day, and look like a common pimple, or an inflamed sore, it will afford no protection from small-pox, however severely it may affect the patient with fever, &c.

DR. BRYCE'S TEST OF PERFECT VACCINATION.

All parents should insist upon the family surgeon's using the test discovered by Dr. Bryce, of Edinburgh. It consists in vaccinating, on the *fifth* day, the other arm from the one first vaccinated. If the first has been perfect, both pustules will ripen precisely at the same time; if this does not take place, the constitution has not been properly affected, and it must be repeated. This is simple and easy, and ought never to be neglected.

TEST OF PERFECT VACCINATION, BY DR. GREGORY, PHYSICIAN TO THE SMALL-POX HOSPITAL, LONDON.

One of the most important discoveries, respecting small-pox succeeding vaccination, has been made by Dr. Gregory, who finds that the violence of the

secondary small-pox is in proportion to the imperfection of the vaccine scar, or, as it is called by surgeons, the *cicatrix*. Dr. Gregory informs us, that when the vaccine scar on the arm is distinct, circular, and full of little pits or dimples, spreading in rays, or lines, from the centre to the circumference; but, above all, when the scar is so small, that it can be covered with a pea;—the secondary small-pox, if they do occur, will be so slight, as hardly to deserve the name of a disease. On the contrary, when the vaccine scar is large, irregular, and without the little radiated pits, or dimples, secondary small-pox, if they do occur, have a chance to be severe.

We earnestly recommend, therefore, on the faith of Dr. Gregory's judicious remarks, which have been derived from very extensive experience, that all our readers examine the vaccine scars on the arms of their children, and, if they are not small, circular, radiated, and pitted, to lose no time in having vaccination repeated. Dr. Gregory further informs us, that vaccination will not succeed the second time when the scar is perfect, so that the trial can give no inconvenience where it is not wanted. This agrees perfectly with our own experience.

The idea is gaining ground, that the protecting influence of vaccination wears out in ten or in fifteen years; but, if it does, (and this is far from proved, and very doubtful,) repeating the vaccination, and

renewing the insurance, is, surely, easy. The interested squabbles of medical men have raised much more alarm than the facts warranted. We hope that these plain facts will allay the fears of our readers, put them in the true path of science, and teach them to be on their guard against the misrepresentations of alarmists.*

Should the small-pox occur notwithstanding every precaution, the greatest care must be taken not to break the pustules, nor to rub off the crusts prematurely, as it is chiefly owing to this that the scars are rendered unsightly. Several cooling preparations are recommended, in books, for allaying the itching, and other unpleasant feelings. Of these, we know none better than cream, to which a little magnesia, or finely-levigated chalk, has been added.

6. WRINKLES.

In proportion as we advance in age, the adhesion of the internal surface of the skin to the parts subjacent, becomes much stronger; and the anatomist finds that more exertion is required to separate these. By degrees, wrinkles form upon the face. Joy and grief, operating in quick succession, are the most frequent causes of motions in the features of the infant, and are produced, on every occasion, by the slightest causes. Now, the wrinkles formed

* *Oracle of Health*, vol. i. p. 254.

upon the eyelids by weeping, are more permanent, either because this affection is more frequent than smiling, or because the habitual winking adds to their natural motion, or, again, because the parts contain less fat. As the infant is less inclined to smile than to weep, and its cheeks contain a redundant quantity of fat, the perpendicular wrinkles produced by the muscles of the face, which, in this motion, expand the features horizontally, are not so soon formed. The act of sucking, also, requires a contraction of the features, and opposes their formation. The wrinkles of the forehead are, likewise, slow in forming, owing to the motion of frowning, and contracting the eyebrows, being rare in the infant,—the age of innocence hardly admitting of being disturbed with the gloomy passions which produce these motions.

One of the chief causes of wrinkles arises from the obliteration of the blood vessels in old age, or in the premature advances of senility from dissipation or disease; for wrinkles are not so much an indication of years, as of the march of the constitution. It is palpably wrong, indeed, in ninety-nine cases out of a hundred, to reckon a person's age by the number of years, rather than by the marks of decay, which cannot be mistaken. Have you ever remarked the countenance of any of your friends on recovering from a course of mercury, which some bilious disorder may have rendered indispensable? If you

have not, our strongest language cannot picture to you the haggard look, the hollow eye, the wasted cheek, the bloodless and wrinkled skin, and aged-like features of those, who, in the bloom of youth, or the prime of life, have been subjected to this infallible destroyer of beauty.

Though one of the first marks of old age is a failure in the power of the stomach and liver to prepare good blood from the food and drink taken for that purpose; yet, you must remark, that blood may be manufactured by the stomach and liver, and of the freshest and healthiest kind too, and yet may be, in a great measure, useless, from the obstruction, or obliteration, of the blood vessels. Now, this is precisely what happens in advanced years, or premature old age; for the fine hair-like blood vessels, which branch-off in every direction through the texture of the skin, become obstructed and imperforate, and, consequently, the skin, not being supplied with its nourishment of fresh blood, shrinks, withers, and becomes, first, sallow, and then wrinkled. In such cases, when the smaller blood vessels are obstructed, the larger ones swell with the blood which cannot get vent, and this is the reason why you see old people's veins swell, as on the back part of the hand.*

Another cause of wrinkles, of precisely the same

* *Oracle of Health*, vol. i. p. 474.

kind, is, the obstruction of the small pipes which we have described above, as conveying moisture to the skin, to keep it smooth and soft. The little glands, also, or fountains, which supply the moisture, are diminished, or dried up, in consequence of being stinted in their supply of fresh blood, from which they manufacture, or filter, the moisture destined to soften the skin.

It requires but small observation to remark, that the thin and meagre are more liable to wrinkles than the plump and corpulent. *Embonpoint*, indeed, is one of the best preservatives against wrinkles, properly so called, for, though a certain kind of wrinkles are formed in this state of the system, they are very different from the dry, withered, wrinkles of old age.

PREVENTION AND CURE OF WRINKLES.

To prevent the formation of wrinkles, you must attend carefully to what we have shown you to be their causes. You will better understand our philosophy, and believe more firmly in the efficacy of our plans, if you have ever been scalded with hot water, or stung by a nettle. Recollect, we have just told you, that the leading cause of wrinkles is the obliteration or obstruction of the smaller blood vessels, which prevents the blood from getting to all parts of the skin, as formerly, to supply it with nourishment. Now, all that is necessary in this

case, you perceive, is to re-open, if possible, those small thread-like and hair-like blood vessels, which have thus been shut up, in consequence of disease, dressing, or dissipation. So far this is an easy task, and, so far as it is carefully performed, the smoothness and freshness of your skin will be restored. Observe the effects of the scalding water, or the sting of the nettle, on the skin. The skin becomes instantly red and blushy, because the small hair-like blood vessels on its surface have been stimulated to increase their calibre, and to admit the augmented stream of blood. You may see this more manifestly in the white of the eye, when a particle of dust or sand gets within the eye-lid. The small blood vessels, previously invisible and empty, all at once enlarge, become filled with blood, and the eye is then expressively said to be bloodshot, and the hitherto invisible veins are seen branching along the white surface of the eye-ball. This, however, is an approach to inflammation, from the vessels being too much enlarged, or the stream of blood too strong, and this we must take care to avoid in our restorative plan. We have put the case strongly, that you might the better comprehend the philosophy and common sense of the thing. Now for the practice.

According to our philosophy, in order to re-open the small shut blood vessels, you have only to stimulate them. On the surface of the body this is best

done by tepid bathing, and gentle and continued friction with the flesh brush, or with a soft cotton cloth. In this friction you must persevere daily, and you may be certain, that your skin, however dry, shrivelled, and wrinkled it may be, will soon become supple, moist, transparent, and healthy. Not only so, but the inner parts of the body are all in such close companionship, or sympathy, with the skin,* that they will be increased in an equal degree, and the youthful routine of nourishment will be thus slowly, but effectually, established.

This, you will easily infer, however, is only a small part of the process, though it is the part which applies immediately to the source and origin of the wrinkles. Along with this there must be rigid abstinence from all the causes which produce the obliteration of the small blood vessels, such as unscientific feasting, late hours, and immoderate drugging.

To crown this, our philosophical method of renewing the lost lustre and freshness of youth, we must insist on as rigid an adherence as possible to the rules of training, particularly those respecting food, exercise, and sleep. If these measures are properly persevered in for two or three months,—(attending to them one day, and neglecting them

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* See *Medical Advice on Bilious and Liver Complaints*, p. 10.

the next, would ruin all)—we stake the character of our little work on the issue.*

Among the external applications which have been recommended for removing wrinkles, fresh slices of veal, bandaged on the parts during the night, are said to prove effectual; but we have never known it tried. The distilled water of green pine apples is, also, extolled in some French works.† The following are, also, recommended on the same authority.

POMADE FOR REMOVING WRINKLES.

Take two ounces of the juice of onions, the same quantity of the white lily, the same of Narbonne honey, and an ounce of white wax; put the whole into a new earthen pipkin till the wax is melted; take the pipkin off the fire, and, in order to mix the whole well together, keep stirring it with a wooden spatula till it grows quite cold. You will then have an excellent ointment for removing wrinkles. It must be applied at night, on going to bed, and not wiped off till the morning.

LOTION FOR WRINKLES.

Take the second water of barley, and strain it through a piece of fine linen; add a few drops of balm of Mecca; shake the bottle for a considera-

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* *Oracle of Health*, vol. ii. p. 31.

† *Encyclopédie des Dames.*

ble time, till the balm is entirely incorporated with the water, when it will assume a somewhat turbid and whitish appearance.

This is an excellent wash for beautifying the face, and preserving the freshness of youth. If used only once a day, it takes away wrinkles, and gives surprising brilliancy to the skin. Before it is applied, the face ought to be washed with rain-water.

REMEDIES FOR WRINKLES IN THE BREASTS, &c. OF MARRIED LADIES.

The wrinkles which disfigure a fair face are not the only ones that are dreaded by beauty. They sometimes appear after pregnancy upon the bosom and belly, in consequence of violent extension to which the skin of those parts is then exposed. It is necessary, in this case, to have recourse to those precautions which art dictates, and to employ such means as it affords to remedy this deformity. To prevent the too great depressions of those parts, they ought to be supported by bandages, drawn tolerably tight. The following process is borrowed from that intelligent physician, Le Camus.

Melt some of the best white wax; add an equal part of spermaceti, which incorporate well with the wax, and pour into this mixture a small quantity of spirit of wine; dip into it pieces of linen, which apply very hot to the belly after delivery,

and fasten them with bandages; take care to turn the piece of cloth dipped in the wax every morning, and renew it at the end of a week.

This easy process will be sufficient entirely to prevent wrinkles, and to preserve the firmness and the delicacy of the skin. When this application is intended for the breasts, it is necessary to make a hole in the middle for the nipples, as too violent a compression of them might be attended with disagreeable consequences.

7. BEAUTY OF THE SKIN IMPROVED BY CHOICE OF COLOURS IN DRESS.*

It is not sufficient for the skin to be actually beautiful;—it must, likewise, appear so. Dress ought to heighten its lustre, or disguise its want of that quality when rather too brown. This object is attained by the selection of colours employed in dress. These colours, when ill assorted, may totally eclipse the charms of the most beautiful carnation; when used with taste, they may, on the contrary, enhance the attractions of a very inferior complexion. It is thus that a skilful painter sets off his figures by the colours of the grounds of his pictures;

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* For this article we are indebted to the elegant author of *The Lady's Toilette.*

and, if the choice of colours for these grounds is considered as a circumstance of the highest importance in painting, it may likewise be affirmed, that the selections of colours for dress, is highly essential for the exhibition of beauty in its full lustre.

If a colour appear beautiful in itself, that is not a sufficient reason why it should be made use of in dress, as adopted by all women. Any colour whatever may be suited to certain persons, and be injurious to the beauty of many others. It is, therefore, necessary to choose not the colour adopted by the tyranny of fashion, but that which best suits the complexion, and best harmonizes with the other articles of dress with which it is intended to be worn.

It can scarcely be conceived how much the colour of a robe, or of a shawl, may heighten or destroy the beauty of a complexion, and how much so important a circumstance is usually neglected. Is white in fashion?—All dress in white. Is it black?—They all exchange their white for that colour. Are yellow ribbons in vogue?—All will wear them, and that without consulting either their own colour or complexion. It matters not to them whether they appear brown or pale, black or sunburnt, plain or handsome, or whether they have an engaging or repulsive countenance. Every consideration must yield to the fashion of the day. The great point is

to be in the fashion, and to this tyrant of taste all advantages are sacrificed; women no longer consult their figure, but the whim of the moment.

It is, nevertheless, true, that nothing contributes in a more particular manner to heighten the beauty of the skin, than the choice of colours. For example, females of fair complexion ought to wear the purest white; they should choose light and brilliant colours, such as rose, azure, light yellow, &c. These colours heighten the lustre of their complexion, which, if accompanied with darker colours, would frequently have the appearance of alabaster, without life and without expression. On the contrary, women of a dark complexion, who dress in such colours as we too frequently see them do, cause their skin to appear black, dull, and tanned. They ought, therefore, to avoid wearing linen or laces of too brilliant a white; they ought to avoid white robes, and rose-colour or light-blue ribbons, which form too disagreeable a contrast with their carnations; and, if they chance to be near a fair woman, they will scarcely be able to endure so unpleasant a neighbourhood. Let such persons, on the contrary, dress in colours which are best suited to them; in particular, green, violet, puce, blue, purple, and then that darkness, which was only the effect of too harsh a contrast, will suddenly disappear, as if by enchantment; their complexion will become lively and animated, and will exhibit such charms as will

dispute and even bear away the palm from the fairest of the fair. In a word, the fair cannot be too careful to correct, by light colours, the paleness of their complexions; and darker women, by stronger colours, the somewhat yellow tint of their carnation.

Women, of every complexion, ought to pay attention to the use of colours. Azure is best suited to a pale tint, and the tender colour of the queen of flowers perfectly harmonizes with the roses of the face: but if the cheeks display rather too lively a carnation, then, sprightly shepherdess, choose the beautiful livery of nature; and, by this happy combination, we shall be reminded of the charming flower, Adonis, whose elegant foliage is crowned with glowing vermilion.

Women should not only adopt such colours as are suited to their complexion, but they ought, likewise, to take care that the different colours which they admit in the various parts of their dress, agree perfectly together. It is in this that we distinguish women of taste; but how many are there that pay no attention to this essential point: we meet every day, for instance, women who have a rose-coloured hat and a crimson shawl. Nothing is more harsh than the contrast of colours of the same kind. If to these be added, as is sometimes observed, a light blue robe, the caricature is complete. It would be too long to enter into a detail of the colours which

perfectly agree; for this, it would be necessary to discuss the nature of colours, their harmony, their opposition, &c. which would be too tedious for a work like the present.

We must not omit a very important observation, respecting the change of colours by light. A female may be dressed with exquisite taste, and appear charming in the day-time; but at night the effect is totally different, and this enchanting dress is quite eclipsed at the theatre, or at the ball. Another is charming at night; her taste is extolled. Delighted with these praises, she resolves to shew herself abroad, and her toilette is detestable. To what is this owing? to the choice, or the assortment, of colours?

Thus, crimson is extremely handsome at night, when it may be substituted for rose colour, which loses its charms by candle-light; but this crimson, seen by day, spoils the most beautiful complexion; no colour whatever strips it so completely of all its attractions. Pale yellow, on the contrary, is often very handsome by day, and is perfectly suited to people who have a fine carnation; but at night it appears dirty, and tarnishes the lustre of the complexion, to which it is designed to add brilliancy. We could adduce many other examples, but it would be difficult to specify all the particular cases; for all these effects depend on different circumstances, as we have already seen; for instance, on the complexion

of women, on the greater or less vivacity of their carnation, on their stature, on the other colours employed in their dress, &c. I say, on the other colours employed in their dress, and insist on this remark; for any other particular colour, which alone, or assorted with suitable colours, would appear pleasing, is sometimes rendered ridiculous, unbecoming, or ungraceful, by the contrast with others.

Thus, sometimes a female who yesterday appeared charming, with a hat in an elegant taste, discovers to-day that she is no longer the same, though she has not changed her head dress. The metamorphosis astonishes her; she finds fault, alternately, with her hat and her figure. But, dear madam, neither your figure nor your hat is at all to blame, they have not undergone the least change. But why did I look so well yesterday? — Yesterday, madam, the colour of your dress perfectly agreed with that of your hat; to-day, a new dress forms a contrast so harsh, as to produce an optical discord, as disagreeable to the eye, as a false chord in music is grating to the ear. Put on the dress you wore yesterday, and cease to blame your hat or your charms, neither of which can be in fault.

8. PAINTS AND COSMETICS.

"Les fards ne peuvent faire
Que l'on échappe au Temps."

LA FONTAINE.

Cosmetics really impart whiteness, freshness, suppleness, and brilliancy to the skin, when it is naturally deficient in those qualities; consequently, they only assist nature, and make amends for her defects; and it may be affirmed, that they are to beauty what medicine is to health. Paints are far from answering this description. They are not only incapable of embellishing the skin, but those who make use of them are extremely fortunate when they do not contribute to increase their defects. They cannot give the skin the desired qualities; they only imitate them in a manner more or less coarse. In a word, they may be aptly denominated physical hypocrisy.

If, then, paints are incapable of preventing or repairing the ravages of time, why are they used? For various reasons: in the first place, because they are sooner and more easily applied, because they produce a higher, more brilliant, and speedy effect; and, in the next, because, in cases where cosmetics would be of no use, (for instance, persons too plain or too old,) paints afford a convenient resource, a last and only medium of disguising either the defects of the complexion or the ravages of time. In short,

paint is the sheet anchor of the fair sex in these cases.

Ought people to use paint? Why not? When a person is young, and fresh, and handsome, to paint would be perfectly ridiculous; it would be wantonly spoiling the fairest gifts of nature. But, on the contrary, when an antique and venerable dowager covers her brown and shrivelled skin with a thick layer of white paint, heightened with a tint of vermilion, we are sincerely thankful to her; for then we can look at her at least without disgust. And are we not under obligations to her, for being at the pains to render herself in reality more ugly than she is, in order that she may appear less so.

These observations on paints are designed to allude more particularly to white. If ever paint were to be proscribed, we should plead for an exemption in favour of rouge, which may be rendered extremely innocent, and be applied with such art, as sometimes to give an expression to the countenance, which it would not have without that auxiliary. How many charms has the delicate colours of modesty! And, in an age when women blush so little, ought we not to value this innocent artifice, which is capable of now and then exhibiting to us at least the picture of modesty, and which, in the absence of virtue, contrives, at least, to preserve her portrait.

The professed enemies of paints will, perhaps, take it amiss, that we here declare in favour of rouge;

but we think it would be very wrong to include it in the same prescription as white. The latter is never becoming; but rouge, on the contrary, almost always looks well. At the same time, we only state our own sentiments on this subject, leaving our readers at liberty to think as they please.

It is not the present fashion to make so much use of red, as was done some years ago; at least, it is applied with more art and taste. With very few exceptions, ladies have absolutely renounced that glaring, fiery red, with which our antiquated dames formerly masked their faces.

It were much to be wished that females would compose their rouge themselves. They would not, then, run the risk of using those dangerous reds, in which minerals are ingredients; of spoiling the skin, and exposing themselves to the inconveniences which, as we have observed, result from the use of metallic paints.

These dangerous reds are those compounded with red lead, or cinnabar, otherwise called vermilion, produced by sulphur and mercury. Vegetable reds, therefore, should alone be used, since they are attended with little danger, especially if they are used with moderation.

The vegetable substances which furnish rouge, are red sandal wood, root of orchanet, cochineal, Brazil wood, and especially the bastard saffron, which yields a very beautiful colour, when it is mixed with

a sufficient quantity of talc. Some perfumers compose vegetable rouge, for which they take vinegar as the excipient. These reds are liable to injure the beauty of the skin; it is more adviseable to mix them with oily or unctuous matter, and to form salves. For this purpose, you may employ balm of Mecca, butter of cacao, spermaceti, oil of ben, &c.

CARMINE.

Carmine is the highest and finest red colour we have. It comes chiefly from Germany, and is made from cochineal; it may, therefore, very safely be used. There are two or three sorts of this article. The finest, which is nearly double the price of the common kind, is, in the end, by far the cheapest. The difference between the two sorts will not easily be discerned by mere inspection; besides, it is painful for the eyes, on account of the intensity of its colour, to look upon it, even for a minute. Comparison will certainly point out a difference; but the most certain way of detecting adulteration, is to fill a very small silver thimble, successively, with each sort. The finest and best sort will not weigh above one-half, or two-thirds, of the worst, being commonly adulterated with vermilion and red lead, both very heavy powders.

PORTUGUESE ROUGE.

Of Portuguese dishes, containing rouge for the

face, there are two sorts. One of these is made in Portugal, and is rather scarce; the paint contained in the Portuguese dishes being of a fine pale pink hue, and very beautiful in its application to the face. The other sort is made in London, and is of a dirty, muddy, red colour; it passes very well, however, with those who never saw the genuine Portuguese dishes, or who wish to be cheaply beautified.

The most marked difference between these two sorts, is, that the true one from Portugal is contained in dishes, which are rough on the outsides; whereas the dishes made here are glazed quite smooth.

SPANISH WOOL.

Of this, also, there are several sorts; but that which is made here, in London, by some of the Jews, is far the best; that which comes from Spain being of a very dark red colour, whereas the former gives a bright pale red; and, when it is very good, the cakes, which ought to be of the size and thickness of a crown-piece, shine and glisten, between a green and a gold colour.

This sort of Spanish wool is always best, when made in dry and hot summer weather, for then it strikes the finest blooming colour; whereas, what is made in wet winter weather, is of a coarse dirty colour, like the wool from Spain. It is, therefore, best always to buy it in the summer season, when,

besides having it at the best time, the retailer can likewise have it cheaper; for then the makers can work as fast as they please, whereas, in winter, they must choose and pick their time.

SPANISH PAPERS.

These papers are of two sorts: they differ in nothing from the above; but the red colour, which, in the latter, tinges the wool, is here laid on paper; chiefly for the convenience of carrying in a pocket-book.

This coloured wool comes from China, in large round loose cakes, of the diameter of three inches. The finest of these give a most lovely and agreeable blush to the cheek; but it is seldom possible to pick more than three or four out of a parcel, which have a truly fine colour; for, as the cakes are loose, like carded wool, the voyage by sea, and the exposure to air, even in opening them to shew to a friend, carries off their fine colour.

CHINESE BOXES OF COLOURS.

These boxes, which are beautifully painted and japanned, come from China. They contain each two dozen of papers, and in each paper are three smaller ones, viz. a small black paper for the eye-brows; a paper, of the same size, of a fine green colour, but which, when just arrived and fresh, makes a very fine red for the face; and, lastly, a

paper containing about half an ounce of white powder, (prepared from real pearl,) for giving an alabaster colour to some parts of the face and neck.

These are not commonly to be bought, but the perfumer may easily procure them, by commissioning some friend, who goes to China, to purchase them for him.

This ought, by no means, to be neglected, as these paints are exceedingly well adapted for his delicate customers, who pay less regard to price, than to the goodness of the article they purchase.

As to the carmine, the French red, the genuine Portuguese dishes, the Chinese wool, and the green papers in the boxes of all colours, they are all preparations of cochineal, which is allowed to be of such sovereign service, even in the art of medicine, that the least harm need not be dreaded from its use, nor from any of its preparations, by those ladies who are accustomed to paint their faces, either from custom, or from a desire to be thought beautiful and handsome.

The red powders, above described, are best put on by a fine camel-hair pencil. The colours in the dishes, wools, and green papers, are commonly laid on by the tip of the little finger, previously wetted. As all these have some gum used in their composition, they are apt to leave a shining appearance on the cheek, which too plainly shews that artificial beauty has been resorted to.

The Spanish wool, the papers, and the English-made Portuguese dishes, are all made from a moss-like drug, from Turkey, called safflower, well known to scarlet dyers, &c. But whether this drug, with its preparation, be equally innocent with those of the cochineal, is a subject which deserves further inquiry. These paints are all wetted previous to being used, and leave a shining appearance on the face, like the colours described, and from the same cause.

WHITE PAINTS.

White paints are extracted from minerals, more or less pernicious, but always corrosive. They affect the eyes, which swell and inflame, and are rendered painful and watery. They change the texture of the skin, on which they produce pimples, and cause rheums; attack the teeth, make them ache, destroy the enamel, and loosen them. They heat the mouth and throat, infecting and corrupting the saliva, and they penetrate through the pores of the skin, acting, by degrees, on the spongy substance of the lungs, and inducing diseases. Or, in other cases, if the paint be composed of aluminous or calcareous substances, it stops the pores of the skin, which it tarnishes, and prevents the perspiration, which is, of course, carried to some other part, to the peril of the individual.

Metallic paints are extracted either from lead,

tin, or bismuth. To the inconveniences which we have just enumerated, we add this, of turning the skin black when it is exposed to the contact of sulphureous or phosphoric exhalations. Accordingly, those females who make use of them ought carefully to avoid going too near substances in a state of putrefaction, the vapours of sulphur, and liver of sulphur, and the exhalation of bruised garlic. We shall not give the way of composing the different metallic paints, but should rather wish that these receipts were entirely lost. We shall only subjoin the process for making a cheap paint, which, if not wholly free from inconvenience, is not, however, accompanied with those dangers which always attend the use of whites prepared from bismuth, tin, or lead.

TALC WHITE.

Take a piece of the talc white, known by the name of Briançon chalk; choose it of a pearl-grey colour, and rasp it gently with a piece of dog's skin; after this, sift it through a sieve of very fine silk, and put this powder into a pint of good distilled vinegar, in which leave it for a fortnight, taking care to shake the bottle or pot several times each day, except the last, on which it must not be disturbed; pour off the vinegar, so as to leave the chalk behind in the bottle, into which pour very clean water that has been filtered;

throw the whole into a clean pan, and stir the water well with a wooden spatula; let the powder settle again to the bottom; pour the water gently off, and wash the powder six or seven times, taking care always to make use of filtered water. When the powder is as soft and as white as you would wish, dry it in a place where it is not exposed to the dust; sift it through a silken sieve, which will make it still finer. It may be either left in powder, or wetted and formed into cakes, like those sold by the perfumers. One pint of vinegar is sufficient to dissolve a pound of talc.

This white may be used in the same manner as carmine, dipping your finger, or a piece of paper, or, what is preferable to either, a hare's foot, prepared for the purpose in ointment, and putting upon it about a grain of this white, which will not be removed, even by perspiration. If the ointment with which it is applied is properly made, this white does no injury to the face. The same ingredients may be used for making rouge.

COSMETIC JUICE.

Make a hole in a lemon, fill it with sugar candy, and close it nicely with leaf gold, applied over the rind that was cut out; then roast the lemon in hot ashes. When desirous of using the juice,

squeeze out a little through the hole already made, and wash the face with a napkin wetted therewith. This juice is said to cleanse the skin, and brighten the complexion marvellously.

VIRGIN MILK.

Take equal parts of gum benzoin and storax; dissolve in a sufficient quantity of spirit of wine; the spirit will then become a reddish tincture, and exhale a very fragrant smell. Some people add a little Balm of Gilead. Drop a few drops into a glass of clear water, and, by stirring the water, it instantly changes milky. Ladies use it successfully to clear the complexion.

MILK OF HOUSELEEK.

Beat a quantity of houseleek in a marble mortar; squeeze out the juice and clarify it. When you want to use it, pour a few drops of rectified spirit on the juice, and it will instantly turn milky. It is a very efficacious remedy for a pimpled face, and preserves the skin soft and smooth.

III. THE BEAUTY OF THE EYES.

Inquiry and observation have discovered several things so extraordinary connected with the eye, that the mere mention of them will be apt to startle the belief of such as are not previously acquainted with them. A plain man, for example, would not, at

first, readily believe that no object whatever is in the place in which we see it; nor that we can only see objects in a plain flat surface, where the distances are marked, as in a picture, or in a looking-glass, by means of colour alone; nor still less would he be disposed to believe, that we see every object inverted or upside down; and that the eye does not see at all, any more than a pair of spectacles may be said to see.

He would, we have no doubt, think that the person who should first state these things as realities and facts, had lost his intellects, or was little better than a raving dreamer. Yet these are only a few of the extraordinary truths connected with the eye, and we are influenced by them every day of our lives, from the earliest infancy till death.

1. DESCRIPTION OF THE EYE.

THE SOCKET.

The eye, though delicate, is not much exposed to danger, being well defended all round by the strong socket, composed of bones, in which it is lodged, like a diamond in a strong box. This socket is well lined with fat, more fluid than in other parts, which serves both as a soft bed for the eye-ball, and, also, to facilitate its motions. When this fat diminishes, the eye sinks back in the socket.

The immediate surface of the bone is covered with the same strong membrane which lines the

skull and covers the brain. From this connection we can trace the cause of inflammation affecting this covering of the brain, when the eye is much injured; and can account for the pains thence arising in the face, as the lining of the socket unites with the covering of the bones of the face.

Above the socket is the arch of the eye-brow, covered with hair, placed in an oblique direction, and moistened with oil, to prevent, as was long ago remarked by Socrates, the sweat from running from off the forehead into the eye, and to direct it rather towards the temple and the root of the nose. The care of Providence is very remarkable, therefore, in causing the hair of the eye-brows to be thicker and blacker in hot climates, than in colder regions. In the East they are artificially blackened. The dark colour acts as a shade to the light, and this effect is increased by frowning. Hence, we depress the eye-brows, and knit them, when we pass from the dark to a place strongly illuminated. In a weak or inflamed state of the eyes, and in all cases where light is offensive, there is a habitual depression of the eye-brows. It is a symptom, indeed, frequently the forerunner, of blindness.

THE MOTIONS OF THE EYE.

The motions of the eye,—and it is very restless,—are performed, as all our motions are, by muscles, or fleshy ribbons. All these movers of the eye take

their origin from the innermost part of the socket, running forwards to be inserted into the eye-ball; and, when made to contract by the will, they, of course, pull the eye in the direction required.

There are, in each eye, six of these muscles; four straight, and two oblique. The four straight muscles are intended to roll the eye inwards; one being above, one below, and one on each side of the ball. The upper one raises the eye upwards and backwards, the lower draws it downwards and inwards, the outer moves it towards the temple, the inner pulls it towards the nose. When all four act together, they sink the eye in the socket, and keep it fixed and motionless.

The lower oblique muscle takes its rise from the bones within the inner corner of the eye, and, running obliquely backwards below the eye-ball, is inserted about the middle of it, or farther inwards than the lower straight muscle. The upper oblique merits particular attention for its singular mechanism. We can easily conceive how the eye-ball can be pulled backwards and inwards, and even to one side, by cords placed in the back part of the socket.

But we often see the eye move outwards, and we know that no motion is performed without one of these ribbons, cords, or muscles. How, then, can the eye move outwards, when there is nothing without to which the mover can be conveniently fixed? This is the problem; and it would require a skilful

mechanician to resolve it properly.—It has been contrived by Providence, that the mover should be placed far back in the socket, to give it power; for the longer the cord, if it have strength, the greater is its purchase in producing motion.

CORD AND PULLEY OF THE EYE.

To produce the motion of the eye outwards, the cord is made to pass through a pulley in the eye-brow, near to the point where it forms an angle with the nose; which pulley is sometimes of bone, but oftener of cartilage or gristle. After going over the pulley, the cord runs back again, and is inserted into the upper part of the eye-ball, about its middle.

These two oblique muscles, particularly the last, cause the eye to roll outwards, as in the effort to perceive a distant mountain, or a ship far in the offing—a most beautiful contrivance, quite unequalled in all our works of art, in elegance of mechanism and utility of design. This can only be matched with others by the same Divine hand; for example, with that of the vessel which carries blood from the heart to the brain, and which makes many a winding turn in the bone to diminish the force of the current that might otherwise prove too violent in rushing into the brain with one-tenth of the blood of the whole body.

FOUNTAINS OF THE EYES.

On the same admirable principles of mechanism,

the eye-ball, which requires so much motion, is furnished with a constant supply of moisture from a fountain or gland situated within the upper and outer part of the bony socket. This gland is composed of a great number of little globules like garden peas, from which seven or eight pipes, not much thicker than a hair, run to the inner surface of the eye-lid. It has been computed, that in twenty-four hours, the two fountains of the eyes discharge about four ounces of the fluid, well known by the name of tears. In hot weather, the quantity is considerably less.

The tears are very limpid and of a saltish taste, whence our rhymesters of small genius are very fond of those *elegant* phrases, "salt tears" and "briny tears." When analysed by the art of chemistry, they are found to contain water, mucus, common salt, and a very little soda and lime. The tears are constantly flowing into the eye, during sleep as well as when we are awake, though in sleep the quantity is less from the less degree of stimulus.

CHANNEL OF THE TEARS.

The contrivance for carrying off the superfluous tears is equally admirable with the rest of the mechanism: no pipe or outlet, as Paley remarks, for carrying off the waste liquor from a dye-house or a distillery, could be better contrived. When the eye-

lids come together, and they do so almost every second, they form a channel which runs in front of the eye, having somewhat of a downward slope towards the nose. Along this channel, whose sides are formed by the ball of the eye and the two eye-lids, the tears, which are brushed from the eye-ball, flow in the direction of the nose.

The eye-lids also, we may remark, begin first to touch each other at the outer angle, and the pressure proceeds successively to the inner; a circumstance which impels the tears along the channel. Majendie denies the existence of this channel, and thinks that the tears pass along the under part of the eye-ball, where it is joined by the reflected membrane of the lower eye-lid. If so, they must be pressed up as high as the entrance of the canals, by the action of the lower eye-lid. But how, upon this view of the matter, can the use of the upper channel be accounted for? It can only be useful on the statement which we have given.

When they have reached the end of the channel, there is a passage for them in two directions, one above and one below the corner of the eye. The entrance of these passages any body may see in his own eye, by examining it in a looking-glass. It is a hole with a whitish gristly circle round it, capable of admitting a bristle or a small pin, and placed on the very point of the angle of the eye-lid, opposite the last hair of the eye-lash towards the nose.

These holes take in the tears, not, as has been supposed, by the attraction observable in minute-glass tubes, but by the same vital power as the vessels of the intestines take up the food after digestion, and carry it into the blood. When they are either too much contracted or too much dilated, as sometimes happens to old people, they do not take up the tears. From this cause it is that old people are so subject to rheums.

These holes lead to two canals, just wide enough to admit a bristle, running above and below the sides which form the angle of the eye, in the form of a snail's horns, till they reach the nose, where they unite into one. The united canal now takes its course downwards, along the outside of the nose, for about an inch; when it penetrates the bone, and discharges the tears into the side of the floor of the nostril, about an inch from its entrance. The passage of the tears is promoted by the pressure of the muscle, whence people with watery eyes are much disposed to wink forcibly, and often. The tears thus serve the double purpose of moistening the eye and assisting to moisten the nostril, by diluting the mucus. The superfluous moisture is carried off in vapour by the stream of air which is constantly passing in the act of breathing. A quantity of the tears is also constantly carried off by the air from the surface of the eye-ball. This is clearly shown by the overflow of the tears when the air is cold and

damp, and, consequently, less fit to evaporate them.

THE WEEPING EYE.

When the canals, which have now been described are in any way obstructed, the tears cannot find a passage, and that annoying complaint, the weeping eye, is produced. It can only be cured by removing the obstruction of the canal, or by making, according to the invention of Mr. Ware, an artificial one directly into the nostril at the corner of the eye; for which purpose, the bone must be bored through, and a silver wire constantly worn in it to guide the tears. Even this, however, is not always successful; so clumsy are the works of man, when compared with the works of God!

The nerves, which are called the fifth pair, send one branch to the fountain of the tears, and another to the nostrils; whence we perceive the reason of the tears flowing more abundantly when the nostrils are irritated. The same connection of the nerves, also, explains why bright sunshine produces sneezing. Dr. Darwin supposes it is from this nervous connection, that the first flow of tears in a new-born infant is produced, by the air acting on the portion of the nerve which is spread over the nostril, and causing most infants to sneeze when they begin to breathe.

A similar effect is produced in after-life, by air, dryer or colder, than that which we are accustomed

to; or by strong smells, such as that of garlic, onions, or snuff.

TEARS FROM GRIEF AND JOY.

From early association of the fountain of the tears and the nostril, the same ingenious writer thinks he can trace the reason why we weep in grief and sorrow—because the stimulus of the air is one of the first uneasy sensations which we experience. Before the flow of tears, in weeping at a tragical representation, he says, an uneasy tingling is always first felt in the lower nostril, where the canal of the tears is discharged. It is in every body's power to verify or disprove this, from personal experience.

But tears, also, flow from joy and tender pleasure. This requires another display of the Doctor's ingenuity to explain it. As the nostril is the seat of infant pain, it is also the seat of infant pleasure, produced by the smell of the mother's milk, and causing an increase of tears, on the same principle that the sight of savoury food fills the mouth with saliva. It is this association which causes us to shed tears of gratitude, of love, and of joy. Cats, from the same principle, express pleasure by purring, or drawing in their breath, as they did when sucking kittens:—so much for Darwin's ingenious conjectures.

THE SKIN OF THE INNER EYE-LID.

On the inner surface of the eye-lids is a very deli-

cate skin, full of branching blood vessels, which folds up over the front of the eye-ball, and is there transparent. It is also larger than the parts it covers, and loose to admit of motion. It is in this delicate skin that blood vessels are seen, when the eyes are inflamed or bloodshot. Even in the healthiest eye, little hair-like blood vessels may commonly be observed, branching elegantly through this transparent skin. Its transparency is dimmed by disease, and altered by passion.

Whether this membrane covers the transparent central circle of the eye, is a question which is still agitated. If it does, it certainly becomes more transparent, and adheres so closely, as to be with difficulty detached, and appears to be part of the cornea. After steeping it in water, it can be more easily stript off. In some diseases, its distinctness is also manifest, as in that species of inflammation which spreads over it like a fan. Such is the reasoning of Mr. Trayers, and it appears very plausible. When the channel of the tears is obstructed, this membrane, for want of moisture, is sometimes converted into a wrinkled and opaque skin.

It is the common opinion, that moisture is given out by this skin different from the tears; but Mr. Travers has stated several very plausible reasons to show that the opinion is unfounded. Among others, he mentions the case of a young woman who had

never shed tears, and whose eye was dry and shrivelled.

THE NATURAL OINTMENT OF THE EYE-LIDS.

There is, however, another supply of ointment provided for the eye besides the tears, although we admit that the delicate envelope of skin is naturally dry. This ointment is prepared in beautiful little glands, about thirty in each eye-lid, which are interspersed within the fine skin of the inner eye-lid, near to the roots of the eye-lashes, appearing, when magnified, like studs of minute pearls. The ointment itself, according to Majendie, is of a glairy consistence, of the nature of the white of an egg, and capable of being dissolved in the tears. It is intended to blunt the acrimony of the salt contained in the tears, which might, without this salvo, be too harsh for the eye. When the tears are deficient in quantity, as during sleep, this ointment is not dissolved, but is collected in the corners of the eye, and sometimes, when it is very abundant and thicker than usual, it glues the eye-lids together. In such cases, warm water will readily dissolve the gum-like matter, and clear the eye.

The little canals, which discharge this ointment, are sometimes obstructed and become inflamed, producing a small, hard, red, painful swelling, well known by the name of the stye. It requires no me-

dical treatment, unless it be unusually bad, as, in most cases, it goes off in a few days. By old women, it is recommended to rub the part with a wedding ring, or the tail of a black cat. When the stye occurs repeatedly in the same person, it indicates that the stomach is deranged, and the general health should therefore be attended to.

THE EYE-LIDS.

The tears, and the dissolved and diluted ointment, now described, are constantly spread over the eye-ball by the sweep of the eye-lids, which act like valves, and are composed of semi-transparent muscular substance, attached to a ring of gristle or cartilage, which is hinged on the adjacent bone, and gives them firmness and preserves their shape. There is, under the skin here, a thin fluid, which, after excess of fatigue, or of debauchery, as well as after violent diseases, becomes thicker and more abundant, and gives the eye-lids a dark leaden blue colour, which, whenever it appears, is a sure mark of exhaustion and weakness. They are elegantly fringed with short hairs, either to defend the eye with a gratework, from anything falling into it; or to perform some unknown operation on light, excluding, for example, extraneous rays, as the hairs of the ear and of the nostril probably do something similar with respect to sounds and odours. When these hairs are removed, it always impairs the vision,

which is another proof of their use. When the eye-lashes are wet with tears, the little drops act upon the light as dew-drops do, and produce beams of rainbow colours. This is most remarkable, in looking by night at a distant light. When the eye-lashes are dried, the beams disappear.

The upper eye-lid only is raised, when the eye is opened; and this is performed by a little fan-shaped muscle, attached to the inner part of the bone of the socket. This muscle is sometimes paralysed, in which case the eye can only be opened by the hand. The eye is shut by another muscle which surrounds the eye-lids. The wider the eye-lids open, as Bichat remarks, the larger does the eye appear; and, consequently, our opinion respecting the size of the eye must often be incorrect. It is on account of its causing the eye-lids to contract, that antimony has been used in the East, from the earliest times, to anoint the eye-lids.

The use of the eye-lids is strikingly demonstrated from what takes place when they are cut off,—a savage punishment sometimes practised in barbarous countries. This prevents sleep; and, from the constant irritation of the light, the eyes inflame, the inflammation spreads to the brain, and the victim of torture expires in the most dreadful agony. In bad cases of the disease, in which the eye-lids are turned outwards, unless surgical assistance is obtained, a similar effect will be produced. The eye-lids, when

turned inwards by disease, also greatly irritate the eye. No application, except the surgeon's instruments, is of any avail in either of these cases. A more distressing case still, is the growing of bridles between the inner lid and the ball. Cutting these only multiplies them, unless the eye-lid be kept continually open.—Such is the mechanism for anointing, and for opening and shutting the eye.

THE EYE-BRUSH.

There is, also, a contrivance for freeing the eye from dust and other loose matter. We can see this best by examining it in a looking-glass, when the eye is turned away, as far as possible, from the nose. It is a little red fleshy membrane, in the form of a half moon, which is then spread over the inner part of the eye, and, when any dust has fallen upon the ball, it sticks to this, and is carried in to the corner of the eye, by the membrane folding back. All dust and offensive matter is, by this means, thrown out at the corner of the eye, *beyond* the small holes of the entrance to the canal of the tears, otherwise these might be obstructed. This is aided by a fleshy substance in the inner corner of each eye, called, the *caruncle*, formed of seven or eight folds, arranged in a semicircle, and studded with small hairs. The use of these hairs appears to be to throw out dust or other foreign matter, carried thither by the eye-brush. It is also useful in directing the tears

through these canals into the nose. It likewise gives out an ointment like that of the eye-lids. This substance is a good test of strength or weakness, being pale when the constitution is debilitated, and florid in high health. The ancients thought it was the source of the tears, evidently because they never examined it.

In some of the inferior animals, particularly in birds, this eye-brush spreads over the whole eye, and does the office of a second eye-lid, by veiling the eye.

THE EYE-BALL AND ITS COATS.

The ball of the eye is considerably smaller than the socket, to give room for its motions, and is not quite globular, but a little elongated. It is made up of several coats, somewhat like the coats of an onion, which inclose several humours. Next to the transparent skin, which we have just described as lining the eye-lids and covering the eye-ball, is a hard, opaque, pearly, or bluish, white, insensible coat, which surrounds the ball, except the central circle, where the eye is transparent.

The descriptions which are given of this coat in books, are often very inaccurate, and even contradictory. Some confound it with the reflected skin of the eye-lids, already described, because this closely adheres to it; and others take no notice of the obvious cause of its white colour, and, consequently,

give a very partial description of its texture. Others, again, confound it with the outer transparent coat of the central circle, called the cornea.

THE WHITE OF THE EYE.

Correctly speaking, the white coat of the eye is a very strong membrane, having, as Mr. C Bell well remarks, the texture and firmness of tanned leather. It is somewhat extensible and elastic, as appears in dropsy of the eye. The sheath of the nerve of the eye is intimately interwoven with this coat, which caused the ingenious Le Cat to consider it as actually the sheath of the nerve, blown out into a button.

It is this coat which binds the eye-ball firmly round, and preserves its figure; and particularly it affords a strong substance for the insertion of the cords or muscles which move the eye. It is the terminations of these muscles which, being spread over the fore part of this coat, gives it that pearly or enamelled appearance, and which are sometimes described as a separate coat. Almost all the terminations of the muscles, in every part of the body, are of this appearance, or somewhat silvery, and nearly insensible, being destitute of nerves. It follows, that both the coat itself, and the ends of the muscles inserted into it, are insensible; and a needle may be thrust into this part of the eye, as it often is in operations, without causing pain. This coat is

not, accordingly, the seat of inflammation or pain, but the reflected skin of the eye-lids.

In consumption, the white of the eye, as well as the teeth, becomes more distinctly of a pearly appearance. In some cases of palsy, it has become quite black. When any of the parts within the eye swell, this coat, from its firmness, resists their expanding, and is, in this manner, productive of great pain.

MIDDLE COAT AND DARK PAINT OF THE EYE.

Within the white of the eye, and adhering to it by an abundant tissue of cells, lies the middle coat, which is thin, rather soft, and so full of blood vessels, that its inner surface is fleecy or velvet-like, from their numerous terminations; and when a young eye is injected with red wax, it appears like scarlet cloth. It is, indeed, almost a tissue of blood vessels, particularly on the surface next to the white coat. It is very sensible.

The inner or fleecy surface gives out a dark brown paint or varnish, which is, indeed, the colour of the whole coat. This is spread over the outer surface of the inmost coat, or expanded nerve, of the eye, and is an important provision in producing sight, as the following facts, from Munro, demonstrate. In the ox this paint is green, in the cat and owl it is white and silvery, in the lion it is gold yellow, in

the dog it is greyish, in man it is dark brown or black, during youth or manhood, and becomes deficient in old age.

From these facts we infer, that the paint given out by the middle coat of the eye is intended to modify the intensity of light. White and pale colours reflect light, while black and deep colours suffocate or absorb it; hence, animals which prey in the night have this paint of a paler colour than man, who sees worse in the dark than any other perfect animal. It is from this circumstance, that the eyes of cats are observed to gleam in the dark; for they concentrate all the light which falls upon them, and the white paint reflects it back on the objects near them. Their eyes become thus a weak substitute for a torch, to light them to their prey.

In the well-known peculiar variety of men who are called Albinos, and who have the hair and skin perfectly white, as well as in ferrets, white rabbits, and pigeons, the paint is altogether wanting, and the eyes appear red. No animal who has this peculiarity can see perfectly in bright sunshine or strong light, from want of the modifying paint. In that diseased state of the eye in which the blood vessels of this coat swell out, they remove the paint which covered them; and as often as the image of external objects falls opposite to those vessels, the objects appear to be tinged with blood.

M. MERY'S EXPERIMENT ON A CAT.

In order to see the blood vessels of this middle coat, and the beautiful ones, also, of the next coat, in a living animal, M. Mery plunged a cat into a tub of water; by which means the eye was rendered more transparent, and the circulation of the blood could be distinctly perceived. We can even perceive the circulation of the blood in our own eye, by a simple experiment.

THE RETINA OF THE EYE.

The innermost coat of the eye is well known by the name of the *retina*, or nervous net-work; being an expansion of the nerve of the eye, which covers the whole of the back part of the eye within the middle coat. The netted appearance, however, is not of the nervous substance itself, in which no fibres or threads can be detected, but of the blood vessels which are interwoven with the nerve, and give a slight pink tinge to the whole. The blood vessels are numerous, and very minutely divided. Is it their netted appearance which is seen in the following experiments?

When we shut our eyes, and press slightly on the eye-lids for a short time, we begin to see,—not a uniform darkness,—but a number of luminous points. By degrees, these are perceived to unite into lines,

variously crossing, and becoming more luminous. When the pressure of the finger is continued longer, the luminous lines appear to radiate from a central circle about the size of a sixpence, which is, also, variously netted, but darker than the rest of the field of vision, if such it may be correctly called. This circle, however, is not always observable. By straining the eye, as if in the act of attentive vision, these luminous lines are seen tremulous and fluttering, much like the tremulous air on a slated roof in a hot sunny day.

LUMINOUS SPECTRA.

The appearances observed in these simple experiments are very different, and not to be confounded with the coloured spectra arising from exposing the eye to intense heat and bright colours. The luminous netted radiations observed on thus pressing the shut eye, are all colourless, or, rather, passing from silvery to yellowish-white. Sometimes, numerous pale-blue spots are seen, about as large as a pin's head.

Besides, the appearances are not confined, as in the coloured spectra, to a definite circle, but extended over an apparent space of several feet in diameter, though varying in extent according to the continuance or magnitude of the pressure. Pressure is not indispensable, though it makes the objects more distinct. We see the same appearance,

more or less, whenever we shut our eyes, by day or night.

We would infer from these observations, that it is either the blood vessels which appear luminous, or the nerves which are interwoven with these vessels. It is but right to remark, that the experiments have not always been successful with such of our friends as have repeated them. We have observed the phenomenon since boyhood, but have not seen it taken notice of in any of the physiological or optical works on vision.

Sauvages mentions having observed a similar net-work on looking attentively on a white wall in the sunshine. It was darker than the other parts of the wall, and appeared and vanished with every pulsation.

According to a late writer, (M. Ribes,) the retina is not an expansion of the nerve, as is commonly believed; but a peculiar membrane through which the nerve branches, similar to the membrane of the nostrils, and of the inner ear.

The retina is usually supposed to be the seat of vision, though there are different opinions held on this point. In the imaginary axis of the eye, between the two principal branches of the central blood vessel, and a little nearer the temple than the nerve of the eye, is a small hole, or, rather, the appearance of a hole, surrounded by a yellow edge, which was first discovered by the celebrated Söm-

mering. Its use is not well understood, though, perhaps, it may be intended to modify the intensity of light, by contracting or enlarging, according to circumstances. It is only to be found in animals whose eyes are parallel, like those of man; and this might lead us to conjecture, that it is instrumental in directing their parallelism.

We have now taken notice of all the coats which invest the ball of the eye, except those of the central circle. These, and the several humours or fluids which compose the interior of the eye-ball, we shall now consider.

THE CENTRAL CIRCLE OF THE EYE.

In front of the coloured central circle of the eye is a hard transparent coat, in form of a watch-glass, being more convex and prominent than the white of the eye. It is called the *cornea*, a Latin word, signifying horny, because it is supposed to be of the texture of horn, and so hard as to bend the point of a knife. Some have compared it to the nails, without reflecting that the nails, as Bichat remarks, are not, like it, separated into plates or scales by a peculiar fluid; nor are they subject, like it, to inflammation. Like the white of the eye, it is insensible; and is, also, covered, as some think, by the reflected skin of the eye-lids, which gives a polish and brilliancy, according to Mr. Travers; and sometimes much increases the appearance of

inflammation when the cornea is so affected. It is proper to mention, however, that authors differ as to the sensibility of the cornea. Haller says, it is *insensible*. Bichat explains the difference:—in the healthy state, it may be cut without pain; but when inflamed, or otherwise diseased, it becomes highly sensible.

THE CORNEA AND SPECKS.

The cornea is composed of several concentric transparent plates or scales, slightly adhering together, and having transparent vessels running through them, but difficult to demonstrate, which give out a limpid fluid, like pure water. It is this fluid which gives the youthful healthy eye all its lustre. In ill health and in old age it becomes muddy, or deficient in quantity, and the eye, in consequence, loses its healthy brilliancy. The cornea readily imbibes water, and sweats it out again in disease, and particularly at death, causing a glaziness of lustre.

It is on the cornea that we see, in some people, white cloudy specks, which are, for the most part, incurable, though attempts are made by some to rub them off, by blowing into the eye powders of various sorts, such as pulverized glass, through a quill. This will be more likely to injure than to cure. A file or sand paper would be a more powerful instrument!!!

Sparks, and small splinters of metal, wood, or

stone, occasionally get into the cornea, and, by sticking in it, cause inflammation, and sometimes ulcers. Mr. Travers says, the cornea always ulcerates when the reflected skin of the eye-lid is injured.

THE COLOUR OF THE EYES.

Behind this transparent horn or eye-glass, is one of the most beautiful parts of the eye, which is fancifully called the *iris* or rainbow, from its varied colour. It is this which, in some eyes, is blue, in others dark brown, or nearly black, and in others hazel or grey. It is a delicate and very sensible coat or membrane, which partitions the eye-ball into two chambers, the one before it, and the other behind. Mr. Edwards says, it is made up of four plates. Around the margin of the iris is a very elegant arrangement of the middle coat of the eye, it being beautifully plaited, as Le Cat remarks, like the wrist-band of a shirt. There are about seventy of these triangular folds. The use of this fringe seems not to be very clearly understood, if we may judge from the difference of opinion concerning it. We may call this plaited circle, which fringes the iris, and corresponds with it in colour, the *ciliary circle*. The fringes are spread over the glassy humour, and around the crystalline lens, to be afterwards described. They cannot have any power to move the lens, as has by some been supposed, for they do not

adhere to it, nor are they contractile; besides, the lens itself is immoveably fixed in the glassy humour.

The colour seen in the iris through the cornea is produced by a paint similar to what we have described, as spread between the middle coat and the inner coat or retina. This paint is usually brown, even in light-coloured eyes; and, as it is spread over the back part of the iris, the colour of the eyes is modified by the degree of transparency possessed by this membrane. The more transparent it is, the darker the eyes. When it is milky or clouded, the colour of the eyes is blue, grey, or hazel. In bright blue eyes, it is white.

The varied shades and elegant marbling, however, arises from the fleecy texture of vessels and nerves producing a velvet-like surface, from which the brown paint is given out. Dr. Gordon denies this, and says, the colour depends entirely on the transparent membrane. At all events, as Bichat remarks, the black paint is indispensable to our perceiving the colours; for, when the membrane is detached from the paint, it is colourless and transparent.

There is a very remarkable correspondence between the colour of the hair and that of the iris. When the hair is light, the iris is usually blue; when dark, the iris is dark-brown; when the hair becomes darker after childhood, the iris, also, deepens; and when the hair becomes grey, the iris, also, fades.

In the lower animals, when the hair is variegated the iris is so likewise; but, as John Hunter observes, it chiefly follows the colour of the eye-lashes. In horses, the iris remains always the same, even when they change from black to white; because, though the hair changes, the skin remains dark. Cream-coloured horses are an exception; for both the skin and iris are of this colour, even at birth. We have more than once observed in individuals the anomaly of one eye being brown and the other blue. In all these instances, the hair was of the tint called, by Werner, hair-brown.

Professor Beer, the celebrated oculist of Vienna, says, that blue eyes are capable of longer tension than black ones; and that the latter are more subject to cataracts. The opinion seems not well founded; for, in all warm countries, where the sunshine is most intense, the natives have black eyes. Blue eyes prevail in Lapland, and cataract is frequent. And we need scarcely quote Lavater to authorize the common remark, that blue eyes indicate softness, tenderness, and, consequently, weakness of the system. Mr. Travers agrees with Beer, as to the greater frequency of cataract and amaurosis in black eyes.

THE PUPIL OF THE EYE.

When the coloured part of the eye is attentively examined, three circles, of different shades, are

observable. The two outer circles are *on* the iris; and the difference of the shade is caused by the different distribution of the blood vessels and nerves. The middle circle is the palest. The inner circle, very variable in size, is produced by a hole in the iris, and is always deep-black when the eye is healthy and sound, whatever may be the colour of the iris itself. This opening is called the *pupil*, and sometimes, vaguely, the *sight* of the eye.

The pupil, though circular in man, is not so in every animal. In the cat it is oval, with the long diameter placed perpendicularly, or parallel to the nose. In the ox it is, also, oval, but with the long diameter placed horizontally, or perpendicular to the nose. In the toad and the adder it is, also, horizontal. The pupil varies in magnitude according to the intensity of light which falls on the eye, as any body may prove, by causing a friend to shut his eye for a little, and observing it as he again opens it to the light, when the pupil will be seen gradually to grow less. It is by this test that surgeons try the sensibility of diseased eyes; for when the sensibility is injured, this contraction either does not take place, or is very partial. A person may even examine his own eye, in this way, at a looking-glass.

In some rarer cases, the pupil will appear active, though the eye be totally insensible to light. Some animals, such as parrots, are said to have a voluntary

power over the pupil, independent of light. This must be pure conjecture, as the proof is out of our reach. There are, however, instances of this in man, though they are not common. Dr. Roget, who is not unknown in the scientific and literary world, possesses this power over the iris in perfection. The effort, he says, in his letter to Mr. Travers, of which he is conscious while exerting it, is the same as what he feels in adapting the eye to different distances in viewing objects.

Some years ago, a very powerful poisonous drug, —the deadly night-shade, or *Belladonna*,—was discovered to have the property of enlarging the pupil to nearly the whole extent of the iris, so that the two outer coloured circles almost disappear. This has afforded an exceedingly useful instrument to surgery; for, by this means, the inner parts of the eye can be more fully brought into view than could formerly be done. This property of the night-shade has, also, been taken advantage of in certain diseases of the eyes, and its constant use has enabled many to see who, but for it, would have been blind, and, indeed, are so, except while the effect of the drug keeps the pupil dilated. It must be confessed, however, that it gives the eye a very singular staring look; and M. Magendie affirms, that the poison sometimes gets into and injures the constitution, through the absorbent vessels of the reflected skin

of the eye-lids. Henbane, and some other narcotics, are found to have a similar effect on the pupil.

A MARK OF BEAUTY.

A large pupil has, in most ages and countries, been considered as a mark of beauty. It was the distinguishing beauty which Homer assigned to Juno, comparing her eyes to those of an ox for largeness. Lord Byron has given a more elegant comparison of large eyes to those of the large-eyed antelope or gazelle.

> "Her eyes' dark charm 'twere vain to tell,
> But gaze on that of the gazelle—
> It will assist thy fancy well."
>
> *Giaour.*

A large pupil, however, although it is esteemed a mark of beauty, is, at the same time, one of the strongest indications of a weak habit of body and a delicate constitution. It is very common in those liable to consumption, or labouring under water in the head, &c.

ORGAN OF MOTION IN THE IRIS.

We have repeatedly observed, in the course of this work, that all the motions of our body are produced by muscles; but it has long been disputed, among the ablest writers, whether the motion of the iris,

in enlarging and contracting the pupil, is caused by muscles or not. It may be remarked on this point, that, if muscles are the moving power, their action is very different from what is usual in other parts of the body; for, in the iris, excitement, so far from producing contraction, causes relaxation of the fibres, and the contrary. At death, this relaxation is most obvious in the great dilatation of the pupil, which is, indeed, one of the most certain marks that life is extinct. The inner ring of the iris seems to be elastic. In fish, the iris is immoveable, as Mr. Travers proved, by concentrating the sun's light on the eye of a perch. We shall not enter farther into the controversy. It is enough for us to know the fact of the contraction and dilatation. One beautiful circumstance, however, we must not omit, as it exhibits, very strikingly, the superiority of the divine works of Providence, to the clumsy contrivances of man:—it is, that in all its variety of magnitude, the pupil remains circular. To contrive a mechanism which would always preserve the circular form of an aperture so small as the pupil of our eye, during every change of its size, is a problem which, we believe, few could practically solve.

As to the sensibility of the iris, there is some difference of opinion. Magendie, upon irritating it with a needle, produced in it no sensible motion. When cut, in some operations, it is not pained; in others,

it excites vomiting. When a beam of light is made to fall on it, there is no motion produced. In inflammation of the iris, red hair-like vessels, and specks of blood, may be observed, and there is *much pain*. By the continuance of inflammation, both its texture and its colour are altered. Mercury, in cases of this kind, Mr. Travers says, is found to be a powerful, and almost unerring, remedy.

In some cases of disease, when the cornea is injured, the iris is displaced, and protrudes through the opening, like a small black berry, or a jet bead. The pupil, of course, is dragged out of its position, and vision is destroyed. There is, also, great pain; probably, from the keen sensibility of the iris in this state. The protruded part of the iris has, in such cases, to be burned off with caustic, or cut with scissars.

ARTIFICIAL PUPIL.

Sometimes the pupil is closed, or nearly so; an accident which is, most commonly, the consequence of surgical operations. Even for this there is a remedy; several spirited oculists having boldly cut the iris, and formed an artificial pupil. There are several ways of doing this; but that of Mr. Gibson seems to be, if not the safest, at least, the most ingenious. Mr. Gibson cut into the edge of the cornea, allowed the iris to protrude, and cut off,

with his scissars, the part which protruded, and, of course, made a circular opening in the iris, instead of the obliterated pupil.

PUPIL CLOSED BEFORE BIRTH.

Minute observation has discovered, that, before birth, there is no pupil; not that the iris is closed, but a very thin skin or membrane fills up the opening. The pupil, indeed, is then of the medium size, and, it appears, that the design of the membrane is to keep the iris at this medium stretch.

About the seventh month, the membrane is strongest, being then full of blood vessels. Towards the ninth month, it opens in the centre, and becomes transparent; and, after birth, it disappears altogether, or, perhaps, falls back, and forms the rim of the pupil. It does not, therefore, appear that it is designed to defend the eye of the infant from the light at birth, when it has come to its full time. But, may it not be intended for this purpose, in case the infant should be born before its full time, and its eyes thus prematurely exposed to light? Magendie found the eye, at the seventh month, capable of forming an image. Or, may it not be to prevent the iris from growing together, and obliterating the pupil, which is sometimes the case at birth? We throw out these as mere conjectures.

THE FRONT CHAMBER AND ITS FLUID.

We have said, that the space before the iris, and behind the cornea, is called the front chamber of the eye. This chamber is filled with limpid fluid, like water, and hence called the *watery humour*. It is, however, a little viscid,—perhaps, to give it more consistence. In a grown person, it weighs about five grains; in an infant, about half as much. Authors differ in the account which they give of the source of this fluid; some tracing it to the fleecy surface of the iris, and others to the fringes of the ciliary circle around the margin of the iris. Perhaps, after all, it may be derived from the cells of the cornea, which contain, as we have seen, a fluid very similar to the watery humour.

This humour seems to be intended to distend the cornea, and keep it full and convex. We infer this from the circumstance that when the fluid becomes less in quantity, as it does in old age, and in some diseases, the cornea, at the same time, becomes flatter; and in infancy, when the cornea is much thicker and stronger than in after life, the fluid not being so requisite, is less abundant.

Another use of the watery humour appears to be that of affording a medium for the iris to float in. This is, perhaps, its most important use; for the contraction and dilating of the pupil require the greatest nicety to meet the quantity of light which

is so frequently varying. When the fluid escapes, the pupil contracts for want of support. The watery humour accordingly fills the opening of the pupil, and a small quantity of it also lies behind the iris.

Formerly, the quantity of the fluid behind the iris, was thought to be considerable; but this was found to be a mistake, by the ingenious experiment of freezing the eye before dissecting it. In this case, only a very thin flake of ice is found behind the iris. On deficiency of the glassy, the watery humour becomes proportionally more copious.

When by any accident, or by an operation, the cornea is torn or cut through, the watery humour escapes through the opening. It is, however, very speedily removed; about eight or ten hours being sufficient for again filling the chamber of the eye. This circumstance has been taken advantage of by quacks, to exhibit the power of their nostrums. They let out the fluid from the eye of a dog, or other animal, and, afterwards, bind it up with their pretended eye-water, or ointment. On opening up the eye, next day, it is found to be quite restored.

In some instances, this fluid becomes turbid and cloudy by disease, and, in wounds of the iris, it becomes mixed with blood, as it always is before birth. When this occurs, the only remedy is, to cut into the edge of the cornea, and allow the fluid to escape, and repeat this till it becomes limpid again.

BACK CHAMBER OF THE EYE.

The back chamber of the eye is greatly larger than the front one, forming the whole inner ball of the eye, while the other extends only to the visible coloured circle. This chamber is chiefly filled with a fluid, which, from its appearance, is called the glassy humour. There is, besides, a small round transparent body, set into the front of this humour, like a diamond in a ring, immediately behind the pupil. This is called the crystalline humour.

THE GLASSY HUMOUR.

The glassy humour will sink in water, is considerably heavier than the watery humour, and looks glairy, almost like melted glass, the white of an egg, or tremulous jelly. It does not float free, like the watery, but is contained in a very lucid membrane, which divides within into innumerable little bags, so transparent as not to break the course of a ray of light. Their density, of course, must be nearly the same with that of the fluid. No art of man could imitate this; for the nicest of our artificial joinings of transparent bodies break the light, and throw it out of its course. No art can mend a broken looking-glass.

In examining an eye, it is impossible to detect these little bags by the eye; but when the whole

mass of the humour is squeezed between the fingers, the globules are felt rolling upon one another. By freezing, they can also be distinctly perceived, solid wedge-like flakes being formed in the several divisions. Around the border of the cup in which the crystalline is set, the membrane is doubled in form of a ring, forming a canal, that may, in the dead eye, be inflated. It is thus discovered not to be uniformly tubular, but puckered, or rather divided into conical pouches, by membranous partitions. It is called, from its discoverer, the canal of Petit. Its use is, we believe, still unknown.

We are quite in the dark in what manner the substance of the humour and its membrane is produced and nourished, as no vessels can be traced into it after birth. Before that period, blood-vessels are seen running through the transparent membranes. It is certain, that all fluids are derived from the blood, and as they are constantly requiring to be renewed, the renewal must come from the same source. It is no proof, therefore, of the non-existence of vessels in the glassy humour, that we cannot detect them.

The glassy humour sometimes becomes cloudy, and of a sea-green colour. This complaint is said to be uncommon. We have seen two instances of it, which were mistaken, by country surgeons, for a disorder of very similar appearance, the common milky cloud in the crystalline humour, well known by the

name of *cataract*. When the glassy humour becomes of this opaque sea-green colour, there is not much chance of a cure, though spirit of ether has been applied, and a course of mercurial purgatives and blisters recommended.

THE CRYSTALLINE HUMOUR.

The crystalline humour, or *lens*, as it is most usually called, but improperly, as Magendie thinks, is a substance, of the appearance of very transparent ice, or crystal. In form, it is like a very small, thick spectacle eye, or the doubly convex glass of a spy-glass, or of a microscope; and serves, as we shall see, a similar purpose to these, in modifying the rays of light. It has been already mentioned that the lens is placed immediately behind the pupil, in a cup-like depression of the glassy humour.

The structure of the crystalline lens has been variously described, and as it is very frequently the seat of disease, it has been very minutely examined. We may consider it as made up of very transparent scales, laid one without the other, beginning at the centre. The scales or plates are composed of transparent threads, beautifully figured and waved. Between the scales there is a transparent fluid, clear, and colourless in youth, but becoming yellowish, or topaz-coloured, in advanced age. In the centre of the lens, the scales lie closer together, and form a little button, nearly solid, which will leap out if the

outer scales be cut into. The change in the scales, from hard to soft, is, according to Magendie, gradual from the centre to the circumference, and gives, therefore, but small countenance to the statement of those who talk of a central nucleus or kernel.

The whole lens is surrounded by a strong, thick, transparent, and elastic skin or membrane, inclosing a transparent fluid, and by several other pellicles or membranes, so delicate, that anatomists are not agreed about their distribution. Mr. Travers denies the existence of a proper capsule of the lens. It is an investigation, indeed, which, as Mr. C. Bell remarks, provokes us to continued research, and mortifies us with continual disappointment.

The lens, however, is well ascertained to adhere behind to the membrane of the glassy humour, which keeps it fixed opposite to the pupil, and prevents it from rolling. It is thought by some to be further steadied and compressed by the points of the ciliary fringe formerly described, which lie around it, but have no attachment to it that can be traced.

CATARACT OF THE EYE.

The lens, and the membrane that contains it, as well as the fluid within the membrane, are exceedingly liable to become cloudy and opaque, to which disorder the name of *cataract*, meaning *confused* (vision), has been given. The disorder is not unfrequently found in infants, even at their birth,

though it seems to be most common in workmen exposed to much heat, as forge-men, glass-blowers, and blacksmiths, and such as drink strong liquors, sour wines, &c., as at Vienna. It has been alleged that the use of rice in diet tends to produce it, because it is found to prevail in Turkey, and some other countries, where rice is much used. Others deny this, and impute the effect to climate, or to the use of opium. There must, however, we think, be some foundation for accusing rice so universally as is done. The master of an American vessel informs us, that in a homeward voyage from India, in which rice was much used on board, most of the American seamen were affected with weakness of the eyes; but none of the Lascars, who had been used to rice from infancy. Sometimes it has been observed to run in families, without any apparent cause. There are several sorts of this complaint; for the lens may be *hard* and cloudy, or the membrane which contains it may become opaque and whitish, or the fluid between these may become white and cheesy.

OPERATIONS ON THE EYE.

The cure of cataract is one of the boldest and most ingenious achievements of the modern surgeon. It has been performed in three several ways, all of which have been successful. One way is, to pass an instrument through the white of the eye, which is insensible till it reach the clouded lens, and then to

push the lens aside into the glassy humour. This operation is known by the name of *couching*. It gives little pain.

Another way is to cut into the cornea, and, by an instrument fitted for the purpose, to bring the lens through the opening, taking it entirely out of the eye. A third way is, to let the lens remain in its place, and to either break it down, with an instrument, into several pieces, or merely to prick it in several places. In this last case, the lens disappears in a short time after the operation, being dissolved, as is supposed, by the watery humour.

When the cloudy speck in the lens is small, producing dimness of sight, as it usually does, at the commencement of the complaint, the extract of the deadly night-shade, by keeping the pupil wide, will aid the sight.

NERVES OF THE EYE.

The nerve of the eye has always been justly considered as of much importance to vision. It is one of the largest nerves of the body, being, when it enters the eye, almost as thick as a goose-quill. In the older writers it is described as consisting of a tube, or vessel, filled with a pulp, or soft substance, like custard. This, however, is not correct; it is altogether composed of little parallel threads, closely interwoven with blood vessels; though, before it enters the eye, those on the outside form a sheath to the others.

Before entering the eyes, the two nerves, which at first are distinct, meet together, and immediately separate again, making almost the form of an ⋈. Now, the question is, whether they really cross at the point of junction, or merely bend and touch each other, and proceed as before. This question, in the present state of knowledge, cannot be determined. It has been proved that, in fish, the two nerves really cross; but the eyes of fish are not parallel, like those of man. Although twigs of nerves very frequently join each other, there is no other example similar to this in the whole body besides.

At a short distance from the junction, the nerve sometimes passes through about thirty small holes, in the outer coats of the eye, but unites again, and forms a small button, whence it goes to be distributed through the retina, accompanied with the numerous branches of its blood vessel.

MARIOTTE'S EXPERIMENT.

It has been concluded, that the part of the eye where the nerve enters is insensible to light, from the following ingenious experiments of M. Mariotte. Place, at the height of the eye, three bright coloured wafers, or small pieces of paper, on a wall, in this form:

A O O C

O

B

A being about three feet, or less, distant from C. Retire from the wall about eight, ten, or twelve feet, with the space between the eyes exactly opposite to B. In this position, shut your left eye, and look with the right at the wafer, A, and, when you do so, the wafer C will vanish, because its image will then fall on the entrance of the nerve.

The same will happen if you shut the right eye, and look with the left to the wafer C. In that case, the wafer A will disappear.

Or both A and C may be made to disappear. Retire from one to two feet further back, and hold the thumb, or any small object, eight inches before the eyes, so as to cover B, when you look with both eyes; and to cover A from being seen by the right, and C from being seen by the left eye. In this position, direct both your eyes to the thumb, and A and C will vanish. Different persons require to stand at different distances in order to succeed, as all eyes are not exactly of the same form and dimensions.

LE CAT'S EXPERIMENTS.

These experiments were varied by Le Cat, who used a large sheet of white paper, and found, at eight feet distance, that he lost sight of a circular space in the centre of nine inches in diameter; at sixteen feet distance, the blank circle became eighteen inches in diameter. We have heard it, indeed, objected to the

correctness of Mariotte's conclusion, that we ought to see a dark spot on every object which we look at obliquely. Le Cat shows that it is so, though the spot is not dark, but a complete blank. In fact, there should, on the same principle, be a dark spot seen for the whole face.

Dr. Smith, and Dr. Priestly, varied the experiment of Mariotte, by having two streams of light entering a darkened room, instead of the wafers on the wall. In this case, also, the nerve was found to be insensible. M. Picquet found that, in this case, his eye did *faintly* see the light.

M. Magendie, ever incredulous of received opinions, refuses to acknowledge the conclusion from the experiments, that the nerve is insensible to light, even if the experiments were more accurate than he is inclined to consider them. We are always accustomed to take part with scepticism of this sort, when founded on reason, or plausibility. Mere assertion of doubt, however, is not reason, though it may lead to further inquiry.

Dr. Elliotson, the translator of Blumenbach, supposes that the wafer disappears because it is too minute for detection when the eye is turned to the other wafer. This, however, will not apply to the beam of light in Dr. Smith's experiment, which was found to disappear as well as a wafer.

DISEASES OF THE NERVES OF THE EYE.

When the nerves of the eye are compressed by water in the head, or by an unusual quantity of blood in the brain, the sight is either impaired or destroyed. In slight cases, dark spots are seen flitting before the eyes during the day, and luminous spots, or flashes of light, are seen in the dark. This sometimes arises from disorders of the stomach, but often from causes which we cannot immediately trace.

The more remote causes are supposed to be such occupations, habits, or exertions, as tend to drive the blood to the head, or to weaken the nervous energy. Among the first we may reckon, stooping with the head, as is usual with literary men, and females employed at the needle; exposing the eye to much light, to heat, or deleterious fumes; as is done by astronomers and sea-officers, in looking through their glasses; by inspectors of money and new bank notes; by smiths and glass-blowers; and by those engaged in chemical manufactures. Among the *second* may be mentioned grief, or other depressing passions, and all immoderate evacuations of the fluids of the body, as bleedings, fluxes, salivation, or too long suckling. Mr. Travers gives the case of a robust country lad, who, becoming the alternate favoured paramour of two females, his fellow servants, was thus, in a few months, rendered blind with amaurosis.

It is by no means an unfrequent occurrence for the nerves to become quite insensible, and total blindness ensue. The eye in this case does not appear to be diseased, except by its vacant stare, or constant rolling and large pupil, which, in confirmed cases, does not vary in size from being exposed or not exposed to light. The severe pain in the head, also, so distressing at first, at length goes off.

This is the disease which afflicted Milton, and which he calls the "drop serene," translating the Latin name "*gutta serena.*" It is best known to medical men by the name of *amaurosis*, and is a much more common complaint than most people would imagine. We are sorry to say, that though patients are blooded, and blistered, and purged, and dosed with mercury, it is but with faint hopes of restoring sight, except when the affection arises, as it sometimes does, from a disordered stomach, or congested blood.

DAY AND NIGHT BLINDNESS.

In some rarer instances, this disease is not constant, but the patient sees well at one period, and is nearly blind at another. Sometimes, this intermission occurs as regularly as an ague-fit, the patients being able to see well during the day, and none at all after sunset; or, being able to see well during the night, and none at all after sunrise. Those who have the particular constitution denominated *Albino*, see very faintly during the day;

not, however, from the defective power of the nerve, but from the absence of the black paint behind the retina.

The former affection is by no means so incurable as amaurosis, though, as a symptom of palsy, which sometimes happens, it may be incurable. In cold countries, it is seldom met with; in warm countries, it is not unfrequent: Mr. Bampfield met with two or three hundred cases of it in India. A number of cases occurred to M. Saint-Yves among the smelters employed in the Hotel des Monnoies. Most people have, some time or other, observed dark motes floating before their eyes. When this is frequent, it is an unpromising circumstance for the sight. These motes are described as resembling flakes of soot, insects' wings, flies; and, sometimes, bright, like a chain formed of the globules of quick-silver. A cloud of these is often the forerunner of a severe attack of head-ache. In another species of this affection, a dark screen appear to shade the field of vision.

Besides the disorders which we have mentioned, as affecting particular parts of the eye, there are some which affect the whole eye-ball. Among these may be mentioned, the eye-ball being pushed out of the socket, by accident or disease; dropsy of the eye-ball, and cancer of the eye-ball.

When the eye has been pushed out of the socket by accident, such as by a violent stroke on the head,

or by a foil entering at its side, we need not, except in bad cases, despair of the sight being, by care, completely restored, as this has been repeatedly accomplished. When the eye-ball is pushed out of its place by any spontaneous swelling, or tumour, the cure is more doubtful. Mr. Travers successfully reduced a bad case of this sort, by daringly tying in the neck the large blood vessel which supplied the diseased eye with nourishment, one of the boldest operations ever attempted.

In dropsy of the eye-ball, the sight is, for the most part, irrecoverably lost; and not only so, but unless the water be drawn off, it may induce cancer, and death itself. Blows on the eye have caused it; but it usually arises without any known cause.

CANCER OF THE EYE.

Cancer in any part of the body is a dreadful complaint. in the eye, it is aggravated by the great sensibility of the organ. Unlike other cases of cancer, which seldom occur till middle age, cancer of the eye, or, at least, a disease very like it, is most frequent under the age of twelve. The causes of the disease can seldom be assigned. The pain produced is intolerable, and, from the bursting of the eye, which sooner or later takes place, and the succeeding discharge, it is a very unsightly disorder. As in all cases of cancer, the only cure is to cut away the whole diseased portion, and death has been repeat-

edly arrested by extirpating the whole eye-ball, together with the gland, or fountain of the tears, where, indeed, the disease often originates.

There is a disease similar to this, and, till lately, not distinguished from it, in which a mass of soft livid substance forms, and shoots out from the eye, It prevails chiefly in infancy, as cancer does in old age. No cure has yet been found for this dreadful malady, for extirpation of the eye-ball has not been, as yet, successful.

2. PHENOMENA OF VISION.

As the cornea and the watery humour behind it, as well as the crystalline lens and the glassy humour, are *all* greatly denser than the air without the eye, through which the light passes, beams of light, on entering the eye, will, consequently, be bent or refracted from the course which they held through the air. As, in passing through the convex eye-glass of a pair of spectacles, all the beams of light are brought nearer to one another than before entering it, the same will, accordingly, take place in the eye.

Now, as light always proceeds in a straight, and never in a curved, line, the beams which are thus broken from their former course, in the humours of the eye, will take a new course, but still holding on in a straight line. They will, of course, as in the spectacle eye-glass, take the form of a cone or sugar-loaf, the point of which will go to the bottom of the

eye, while its base is on the outside of the cornea.

THE EYE A DARK ROOM.

But the interior of the eye is like a dark room, as, except through the pupil, no light can enter it. Now we know by an experiment, which has been a thousand times repeated, that when light is admitted through a spectacle eye, fixed in a hole in the window-shutter of a dark chamber, that it forms, where it is stopt, an inverted picture of whatever is without the window. It is upon this principle that the *Camera Obscura*, with which every body is acquainted, is constructed. In the dark room of the eye, therefore, the light which enters through the pupil must form an inverted picture or image on the bottom of the eye, that is, all things from which light comes to the eye are represented in it upside down; and also the left on the right, and the right on the left side.

This, though a singular and rather a startling circumstance, is proved, beyond the possibility of a doubt, by an easy experiment. Take the eye of a ferret, a rabbit, or other small animal; if the animal is snow white, so much the better. Strip it carefully of its fat and muscles, and hold it with the pupil directed towards a taper or other object. The image or picture of the taper will be seen distinctly turned upside down on the back part of the eye. If the eye of a sheep or an ox, or of any large animal, be used in this experiment, it must be stripped of its outer

coat, (which in such animals, as in man, is opaque,) and its place supplied with tracing paper. In animals with white skins, the absence of the dark paint of the middle coat makes the image very distinct. White pigeons, owls, shock dogs, and human albinos, are examples.

The image is represented on the dark paint of the middle coat, when it is present, and on the middle coat itself, or even on the outer coat, in snow-white animals. The retina, indeed, must permit as much light to pass as is necessary for the formation of the image, otherwise it could not be perceived in the above experiment. Part of the light, however, which falls on the retina, as well as part of what falls on the crystalline and the glassy humour, is necessarily reflected, and, of course, passes again out of the eye. This has been, for the most part, overlooked by systematic writers, though it certainly is an important part of the contrivance. This reflection is denied by Mr. Travers. The light, indeed, which falls on the dark paint behind the retina, is condensed and suffocated; but the pale red tinge of the retina itself, and even the very transparent humours, must reflect a part, as the most transparent diamonds will reflect a part of the light which falls upon them.

It appears to us that this *may* be intended to increase the brightness of the image, as the beams which are thus reflected will return in precisely the same line with the entering beams. This, however,

is only a conjecture, and would require a series of experiments to develope all the phenomena, which are certainly worthy of attention.

Not only is a small portion of the light thus returned, by reflection from the interior of the eye; all the superfluous light which passes through the cornea and watery humour, is either reflected or absorbed by the iris, whose function it is to regulate the quantity of light before it pass to the inner chamber. But for this elegant screen, much of the light which falls on the eye would only tend to confuse vision, from its great obliquity. This obliquity is also corrected by the peculiar structure of the lens. Accordingly, the pupil contracts in a strong light, or in looking at near objects, and dilates on looking at obscure or distant ones. This is satisfactorily shown by dilating the pupil with night-shade, in which case, looking at the sun, or at a pin near the eye, vision is confused, but is distinct when the eye is directed over a landscape.

MAGENDIE'S EXPERIMENTS.

M. Magendie made several interesting experiments to discover the influence of the several transparent parts of the eye in producing the image. When he allowed a small portion of the watery or of the glassy humour to escape, the image was not so accurate. When the whole of the watery humour was removed, the image was larger, less neat, and formed

of less intense light. When the cornea was wholly removed, by a circular incision, the size of the image was not changed, but the light was sensibly diminished in intensity. When the pupil was made larger, the image also increased. The extraction or depression of the crystalline, as in the operations for cataract, rendered the image four times larger, and, at the same time, faint and ill-defined. When the watery humour, the crystalline, and the cornea were removed, there was no image formed by the light, which passes through the glassy humour to the retina. In all these experiments, the size of the image was proportional to the distance.

It is the point of the beams of light, formed into a cone or sugar-loaf shape, which falls on the retina and forms the picture. This point, opticians call the *Focus*, or fire, because the rays of the sun, brought to a similar point by a burning-glass, will burn. This point, even in a small glass, is some breadth; in a well-formed eye it is about as broad as the head of a large pin, but varies according to the angle formed by two lines drawn from the two extremities of the object looked at to the centre of the eye. The field of vision, though not co-extensive with the retina, which is spread over the glassy humour, nor confined to the axis of the eye, is very limited. How far the retina is sensible to images formed on it, is not, we believe, accurately known. The circumstance of a double image being seen in a single eye,

when there are opaque streaks in the transparent parts, or when the nerve or the retina are compressed, shows that the sensibility is not confined to a single point. The picture formed in the eye, however, is exceedingly minute, as must appear from our being able to see an extensive landscape through a pin-hole. A man, six feet high, at the distance of a mile, occupies on the retina only about a thousandth part of an inch. How sensible the eye must be, to perceive a thread, or a hair, or even a letter in a book! Its power is almost inconceivable.

LONG AND NEAR SIGHTED PEOPLE.

When the eye-ball is either more flat or more rounded than usual, the focus does not fall exactly on the retina. When the eye is too flat, the light, particularly what comes from near objects, will reach the retina before the rays come to a point, as commonly happens in old age. A convex glass, or convex spectacles, supply the want of fulness in the eye, and bring the rays to a point on the retina.

If the eye be too rounded and full, the rays, particularly those from remote objects, will meet in a point, before they reach the retina, as happens with near-sighted people. A concave glass, or concave spectacles, will prevent the rays from coming to a point till they arrive at the retina, and will thus assist vision. These facts authorise us to infer, that it is the image which produces the perception of ob-

jects; for when the eye, as we have just seen, is incapable of forming this image distinctly, vision is impaired or lost, according to the extent of the defects.

Both of these defects may be partly brought on by habit, although they do not naturally exist. Sailors, sportsmen, shepherds, and those who are accustomed habitually to look at a distance, will render their eyes incapable of looking at small objects very near them. This, also, will increase with age, as the humours of the eye diminish, and its ball becomes flatter. Those, again, who are habitually looking at small objects near them, as students, painters, correctors of the press, and watch-makers, will render their eyes incapable of seeing things at a distance. For the eye, which is thus accustomed to near vision, will adapt itself to the habit. Those who practise microscopic observations, therefore, can perceive objects too minute for common vision. Spallanzani showed several of his animalcules of infusion to peasants, through microscopes of high power; but though their sight appeared strong and good, they could not see any thing but water. Baker affirmed, that instruments of high magnifying power were very injurious to unpractised eyes. This defect of near-sightedness will disappear as age advances, and the humours become less abundant, and the eye flatter.

GLASSES INJURE THE EYES.

Both of those defects are, in many cases, brought on, and, in most, greatly increased, by the imprudent use of glasses. When these are worn, as quizzing glasses frequently are, from affectation, the sight cannot fail to be injured, by being accustomed to an unnatural focus. What is worse, like the acquired relish for ardent spirits, or for tobacco, the evil grows by indulgence; for, after using a glass but slightly convex, or slightly concave, for a short time, the induced unnatural habit soon requires glasses more and more convex or concave. This was most clearly proved by the observations of Mr. Ware at the universities, where it became fashionable to wear such destructive glasses.

Mr. G. Adams informed Dr. Wells, that he did not find spectacles had the same injurious effects as single glasses; and from his long experience as an optician, his observation is of high authority.

PRESERVES.

At one time, it was fashionable for people who had, or were afraid of having, weak eyes, to wear plain spectacles of a green colour. A more effectual mode of weakening the eyes could scarcely have been invented, as the obscurity produced by the diminished transparency of the glass, causes the eye to

strain itself whenever any thing is looked at with attention, and must fatigue the eye even more than exposure to unshaded sunshine. The injury is increased, also, from the bright points of reflected light from the silver frame, or from the angular positions of the glass itself.

This bad effect is remedied by a contrivance still more injurious:—enclosing the eye of the spectacle in a box whose edges come close to the eye-lids. Now, not to mention the irritation produced by these gogles, as they are called, rubbing on the parts about the eye, they must keep the eye-ball in a continuance both of heated air and confined perspiration.

We have no better an opinion of strengthening washes for the eyes, when composed of acids or spirits. The only effect which they can produce is stimulant; and, unless under the care of an intelligent surgeon, must do more harm than good. Cold water (if not from the pump) is the safest strengthener.

ADJUSTMENT OF THE EYE TO DISTANCE.

The eye is supposed to undergo some change of its parts or relations in looking at objects which differ in their distances. It is supposed, in short, to do for itself what spectacles or glasses do for those who are very long-sighted, or who are very near-sighted. What this change is, has been the subject

of minute investigation and of learned discussion; but still there is little with regard to it certainly known.

Mr. Charles Bell is somewhat doubtful of the fact of the alleged change in the eye, or, at least, he thinks it greatly less than is supposed. He is, therefore, inclined to ascribe what takes place in looking at near and distant objects, in a great measure, to attention. We can attend at pleasure to a letter of a word, to the whole word, or to the page of a book, in the same way as we can attend to a distant object while we overlook those which are nearly on a line with it, but nearer. The mechanical effect produced by thus directing the attention, Mr. Bell does not attempt to describe. In a note, however, on the iris, he states a fact which he might have taken advantage of. When a cat is roused to *attention*, as by the scratching of a mouse, her *pupils dilate*; and the same thing occurs when she struggles to get loose from your hands.

Dr. Young made several ingenious experiments to discover the alleged changes in the eye-ball. He forced upon the ball the ring of a key, so as to cause, by its pressure, a luminous spot, and, looking at objects of different distance, he expected the spot would become greatly larger; but, on the contrary, it remained the same. In another experiment, he placed two candles, corresponding to the extent of nerve of the eye, and then made the high-

est change of its focus, expecting that, in consequence, the outer candle would appear to move away from him; but in this, also, he was disappointed.

On the assumption of a change in the eye, several suppositions have been made concerning the nature of that change, most, if not all, of which are liable to objections not easily repelled. We shall briefly state the chief of these opinions. They refer to a change in the globe of the eye,—in the cornea,—in the iris,—in the ciliary ring,—and in the crystalline. According to the first of these, the globe of the eye is compressed or relaxed by the surrounding muscles of the eye-ball, in order to render the axis of the globe longer or shorter. But were this so, the retina would be puckered up into folds; and, besides, we should be more conscious of the change, as the muscles of the eye are voluntary.

Dr. Monro supposed, that the change partly arose from the varied pressure of the eye-lids upon the ball, and made several experiments to prove this. He kept his eye-lids wide asunder, and attempted to read a book while he held it so near that the letters were indistinct. He could not read it, in these circumstances; but, without moving his head or the book, and bringing his eye-lids within a fourth of an inch from each other, he found he could read distinctly. Mr. C. Bell, however, on keeping the eye-lids open, and using flat camel-hair pencils, as a

substitute for the eye-lashes, found the same effect; and concluded, that it was the modification of the light by the eye-lashes, and not compression of the ball, which took place.

Jurin imagined, that the cornea is compressed and rendered more convex by the contraction of the iris. To render this plausible, he supposes, that there is a muscular ring round the iris, which contracts on looking at near objects, and, when looking at more distant ones, it relaxes, and the cornea springs back, by its elasticity, to its primary place. But,—not to mention, that this muscular ring of the iris cannot be demonstrated,—we know that the iris is not fixed in the cornea at all, but in the inflexible white of the eye.

That the cornea, however, is affected in some degree, seems to have been proved by Mr. Ramsden. He invented an apparatus by which the head was accurately fixed, and a microscope adapted to observe the changes in the eye whilst observing near and distant objects. From very nice experiments, made with this apparatus, it was found, that the cornea moved the eight hundredth part of an inch from the nearest point of distinct vision to a distance of ninety feet.

Sir Everard Home attempted to explain this from the connection of the cornea with the muscles. He found that they are inserted into the white coat, about an eighth of an inch from the

cornea; and that, therefore, their compression of the eye-ball will force the humours outwards, and thus push out the cornea. Not content with this, he detached the outer layer of the cornea along with the muscles, and even conceived that the muscles spread over the cornea. This, as Dr. Monro remarks, must destroy the supposition of the cornea's being moved outwards by the muscles, as their contraction would draw it inwards.

Another opinion is, that the iris produces the adaptation of the eye to distance by its muscularity or extension, its vessels being injected to extend it, and emptied to contract it. This is, also, a mere supposition.

The muscular power of the fringes of the ciliary ring, in drawing the crystalline forwards or backwards, is another supposition which is disproved by the want of contractile power in these fringes, the very point on which the opinion is founded.

The ingenuity of Dr. Young lately brought the opinion, first broached by Des Cartes, into considerable notice; namely, that the crystalline is muscular, and that its fibres, by contracting or expanding, change its refractive power. But, though this *may* be so, we have no proof of it; and must consider it only as an ingenious conjecture.

EXPERIMENT OF MR. TRAVERS.

Somewhat similar to this, is the theory of Mr.

Travers. He assumes the muscularity of the iris, into the outer margin of which the fan-like fringes of the ciliary circle are inserted. At their other extremity, they are in contact with the outer membrane of the crystalline. It follows, that when the iris contracts, it will draw the fringes forward, and the fibres of the crystalline will be compressed, and its axis elongated, and *vice versâ*. That this may take place, Mr. Travers found possible, by an experiment on the dead eye. He pressed the crystalline back into the glassy humour, and observed, that the plaits of the ciliary ring separated. When he removed the pressure, the crystalline sprang back to its place, and the plaits closed. This, if not the true account, is, at least, very plausible and ingenious.

From the plaits being inserted at their edges into the canal of Petit, Mr. Travers conjectures, that the use of that canal, hitherto not understood, is to give the plaits complete command over the membrane of the crystalline. His theory, he also thinks, is rendered more probable, from what is known of the eyes of other animals; fish, for example, in which the pupil is motionless, want both the fringes and the canal of Petit.

It is in favour of Mr. Travers' theory, that, when the crystalline is removed by the operation for cataract, the adjusting power of the eye is lost. This, at least, is the general opinion, though Mr. C. Bell,

as well as Sir Everard Home and Mr. Ramsden, maintain the contrary. Dr. Weller, of Berlin, agreeably to the views of Mr. Travers, directs spectacles of different focus to be used for near and for distant objects, by those who have been deprived of the lens.

INVERTED IMAGE.

When it was discovered, that the image formed at the bottom of the eye is uniformly inverted, it became a question, how we see objects upright. Attempts to solve this problem have been repeatedly made, by men of the brightest talents, and various explanations and solutions of it have been given; but, notwithstanding all that has been learnedly conjectured concerning it, we find it still involved in difficulty. It is easier, however, to show the inconsistency of the explanations usually given in systems, than to propose one free from objection and uncertainty. Bishop Berkeley, Baron Haller, and Blumenbach, after profound investigation, determined, that we see objects upright, because our own bodies are upright. Our feet, for example, are represented in the eye upside down, along with the objects around us; but we *feel* that our feet are not upside down, and, therefore, we *infer*, that other things are not upside down. This is plausible; but to us it appears, that we might as easily seem to stand on our heads as on our feet, in the representa-

tion of objects in the eye; for it is to be recollected, that our bodies are as much without us in relation to the eye, as the bodies of other men, or the ground we walk on.

DR. REID'S PRINCIPLES.

Dr. Reid, whose usual mode of investigation was to resolve a difficulty into a law of nature, asserted, that we see objects upright, because Providence designed it should be so, and made it a law of our nature. He might as well have given up all investigation of any of the works of nature. We know that, in all our inquiries, we must come to general laws, beyond which we cannot proceed; but, as all our great discoveries have been made from the explanation of such laws, at first deemed inexplicable, it becomes us not to stop till we are compelled to stop, nor, even then, to give up repeated attempts to vanquish a difficulty. Dr. Reid's principles are the bane of all inquiry.

It is somewhat singular, after stating that our seeing objects upright arises from a law of our nature, that Dr. Reid himself should propose a solution of the difficulty. Because, says he, the upper part of the eye is directed to the root of a tree, and the lower part of the eye to the summit of the tree, the tree must appear upright. To us, this appears to be an example of explaining things by their contraries, as *lucus, a non lucendo.*

When this opinion, however, is farther illustrated, it appears a little more plausible. If we lay hold of an upright stick in the dark, we know that we cannot feel the summit of it by moving the hand downwards. So, when we direct our eyes towards a spire, we know that we cannot see the vane by directing our eyes downward, but must trace it from below to above. We infer position, according to this account, from the motions not of the eye but of the head.

Mr. Dugald Stewart is of opinion, that the solution would be equally difficult were objects painted upright on the retina. The foundation of this opinion we cannot pretend to understand; but, were it not certain that "God never made his work for man to mend;" and that we are too ignorant to know *all* the reasons for a particular contrivance; we might suggest, that it would have been easy, by the addition of another lens in the eye, to have made the image upright. Perhaps, the solution is not within the present limits of what is known of the eye and of light. If it is not referable to touch, indeed, we cannot conceive how we determine objects to be upright from their inverted images. We have no means of ascertaining whether or not infants see objects upright or inverted. We know, that when they begin to grasp, they will often catch at the opposite end of a stick from that which they seem to intend to grasp; but they will, also, put their

little hand on one side of it, and miss it altogether. Before they can grasp, they will as readily smile at you, looking at them face to face, as looking at them with their head towards you, and their face horizontal.

Paley starts the question of an objector, why Providence did not give us the sense of sight *at once*, without so complicated a machine as the eye? This is precisely the objection, why did not God create the universe at once, rather than piecemeal, according to the Mosaic account? The answer to all such objections is, that, for purposes known to himself, and inscrutable to man, God always acts *by means and instruments* in all the economy of nature which is visible to us. By the instrument of the eye, he causes us to see in the same way as by the instrument of the sun he causes light. Paley thinks it is to demonstrate to man his power and his wisdom; and this may be so: we cannot prove it; we only know that he acts by means and by contrivances.

NOTHING SEEN WHERE IT IS.

We now come to prove a more striking proposition than that of the inverted image; and we lay it down unconditionally, "That no object whatever is actually in the place in which we *appear* to see it; or, in other words, that we see nothing in its real place." A few simple and easily performed experi-

ments, give the most ample and satisfactory proof of this which the keenest sceptic may require. We must select here; for a very great number of experiments might be made to establish the point. Many of them, indeed, are by no means new, but the inference which we draw from them is recent.

Experiment 1.—Take two tubes of pasteboard, or any opake substance, a few inches in length, and a little larger than the diameter of the eye; then place on a table, at the same distance as the eyes are from each other, and in a good light, two wafers of different colours, say red and blue; or two pieces of money, as a shilling and a sovereign. Look at these through the tubes applied one to each eye, and parallel to one another. If the eyes are equal in strength, and the experiment be nicely made, instead of seeing two wafers or two pieces of money, one at the end of each tube, only one wafer or one piece of money will be seen. The colour, also, of the one which is so seen will not be that of any of the individual objects, but a complete transparent union of the two separate colours. We do not mean, that the red and the blue of the wafers combine and form a purple, like as when you mix red and blue upon a painter's pallet; but, in the experiment, the red wafer seems to shine through the blue one, and the blue one to shine through the red one. In a similar way, the sovereign appears to shine through the shilling, and the shilling through the sovereign.

When the experiment is not nicely made, the wafers will only seem to approach to each other, or, perhaps, the edges will seem to overlap.

This, we think, proves the position very clearly; for there is no unnatural medium looked through, and the external light is only cut off from distracting the sight. Moreover, when the tubes are dark, they will appear only as one.

Experiment 2.—Take two very straight thin slips of wood, about a foot in length, of different colours, as yellow and blue; place them on a level table at the height of the eyes, and at the distance of the eyes from each other; look attentively with each eye along each slip of wood, and only one slip will be seen, apparently occupying the middle space, at an equal distance from each, and, as in the former experiment of the two colours, green and yellow transparently intermingled.

This is even a less artificial proof than in the case of the wafers; for there is no exclusion of the light, and no foreign medium of sight employed. When the experiment is imperfectly performed, the slips of wood will only appear as one, at the ends farthest from the eyes.

Experiment 3.—Two silk strings may be fixed on a table, in the same way as the slips of wood, and they will, as in the former case, appear only as one, in a line with the nose, exactly perpendicular to the centre of the eye-brows.

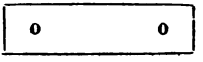
Experiment 4.—The last experiment may be varied, by taking three silk threads, of different colours, as blue, yellow, and red, and fixing them by a pin on a level board, the height of the eye; then bring two of them to the edge of the board, one to each eye, and the third in the middle space, so as to bisect the angle formed at the pin; look steadily at the two threads opposite to the eyes, and they will appear as one, and their colours transparently intermingled in the lines where the middle thread really is. The middle thread, also, will not appear in its place, but will seem as two threads in the real place of the two outer threads, with colours, also, intermingled.

Experiment 5.—Take two pins, or any two things equally small and alike, and fix a third in a board, at the height of the eye. Hold one of the pins before the right eye, so as to cover the pin in the board, and, without moving the head, hold the other pin before the left eye, so as to cover the pin in the board. Look, now, steadily at all the three pins, and they will appear as one. This experiment requires nicety of management, but it is very satisfactory, as a proof of the position.

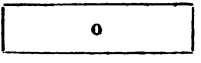
These experiments are more than sufficient to satisfy any candid observer, as to objects not appearing exactly where they are, in respect of the right and the left.

Experiment 6.—Take a card, or piece of paste-

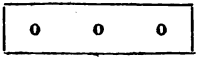
board, large enough to cover both eyes, and drill in it a small hole oposite to each eye, thus:



Look through these holes at a candle, or any luminous object, and, instead of seeing two holes in the card, as you might suppose, you will see, when the card is close to the eyes, only one hole, near the middle of the card, thus:



When the card is held at a short distance from the eyes, you will see three holes, thus:



Now, the conclusion cannot be resisted, that as the candle appears actually behind the middle of the card, where there is no hole, that it is seen greatly nearer to the eye than its true position. The experiments with cards may be varied, thus:

Experiment 7.—With only one hole in a card, look at two candles placed on a table, at the distance of the eyes from each other. Instead of one hole, you will see two, and the two candles. Look steadily at the *hole*, and only in a confused manner at the candles, and you will see the hole single as it really is,

but you will see only one candle compounded of the two, as you may prove by shading them with coloured glass.

Experiment 8.—Except an object be on a level with the eyes, it will not appear perpendicular, although it is so. The proof of this is confirmed, by suspending a hair or a thread perpendicular to the horizon, and looking stedfastly at a point in it, at the height of the eye, at the same time glancing the eye up and down. The hair will appear double in every part, except the point at the height of the eye.

Experiment 9.—Analogous to this is the experiment of lying down on the back, under a high wall or tower, and looking backwards and upwards to the summit, when it will seem to bend over the spectator, as if about to fall upon him.

PERSPECTIVE.

These experiments prove satisfactorily, as we think, that most, if not all, the things which we see around us appear to be where they really are not. Observations, which are familiar to every one, confirm the same singular conclusion. For example, in standing at the end of a long street, or of a double row of trees, the two most distant extremities seem to meet, or, at all events, to be greatly nearer than where we are standing. A tree, also, which is near us, appears much higher than a lofty mountain at a distance. The distant parts, likewise, of a long wall,

appear to a spectator, at one end of it, to curve towards him. In short, all the principles which constitute the science of Perspective are so many proofs of the position.

VISIBLE MOTION.

There are similar deceptions of sight, if we may call them so, with respect to the motion and rest of objects, several instances occurring, according to circumstances, in which objects at rest seem to be in motion, and the contrary.

Experiment 10.—Look with the right eye, the left being closed, at any remote object, such as a distant spire, through a small hole in a card. After steadfastly looking in this manner for some time, look *suddenly* at the hole, and the spire will appear to move from left to right. If you use the left eye, it will appear to move from right to left. Again, look *suddenly* to the spire, and it will seem to move back to the place it appeared in at the beginning of the experiment.

On a similar principle it is, that the moon appears to move along the heavens in an opposite direction to the clouds, which are driven by the winds over her apparent disk; and that the banks of a river seem to move in an opposite direction to those who are sailing on the river. It seems to be, because the muscles of the eye move it, or at least make the effort to move it, in the direction of the apparent

motion, which may be proved by mechanically fixing the eye-ball in a steady position.

Another very important question, which the foregoing experiments help to solve, is, why we see only one object, and not two, when there must be an image of it in each eye. It was supposed, by some of the older philosophers, who knew little of optics, that we see an object single with both eyes, because the two nerves meet before reaching the brain. It is true they do so, though they immediately separate again; but there is one well-known fact, which is enough to set this explanation completely aside. When one of the eyes is pushed a little to one side, an experiment easily made, we see objects double, though this cannot alter the meeting of the nerves. The same fact, also, refutes the opinion of some authors, that we see an object single, because the impression made on each eye is in every respect similar.

Dr. Reid, agreeably to his principles, refers to an original and inexplicable law of human nature, for a solution of the question. Vandermonde supposed that children at first see double, and correct the error by experience. Others maintain that we see only one object, because both eyes see it in the same external place. Our experiments above clearly prove the reverse of this. If any one doubt it, let him hold his finger opposite to his nose, so as to cover a candle, or any other object, from one of his eyes,

while the other is shut. Upon opening the shut eye, the candle will appear *through* the finger, as if it were transparent, when the finger is near the eyes. When it is at a few inches distant from the eyes, the candle will appear double, one on each side of the finger. When the eye first open is shut, and the other opened, the candle, instead of appearing in a line with the finger, will appear to be several inches on one side of it. Nothing could be more satisfactory.

DR. WELLS'S OPINION.

Dr. Wells gives the most plausible account of the phenomenon which we have examined. It is founded on inferences from several of the experiments which are given above. Dr. Wells says, that our two eyes see objects single, because the two visible directions coincide, as in the experiments with the perforated card, the two tubes and the threads appearing one in the middle distance between them. This, however, does not inform us *how* the visible directions coincide.

The chief reason why Providence has furnished us with two eyes, rather than one, is not, perhaps, yet discovered, though several have been alleged, such as, if one eye happened to be destroyed by accident, the person would have still one remaining. This appears to us to be a very silly reason; besides, it proves too much, as it would apply to a hundred eyes as well as to one.

Others assert, that we are furnished with two eyes to increase the power of vision, and this is certainly plausible, and, perhaps, true, if taken in an extensive sense. Dr. Jurin found, however, by experiment, (how far he was correct is doubtful,) that the power of vision, so far from being doubled with two eyes, is only increased about a thirteenth.

After we have been accustomed to the use of two eyes, the loss of one of them is felt to be a very considerable inconvenience. This is proved, both by experiment and example. Shut one eye, and attempt to thread a needle, and you will fail in every trial to pass the thread into the eye. Suspend a ring by a thread, and, with a hook fixed at the end of a walking stick, try to hook the ring. When you use both eyes, you will readily succeed; when you use only one eye, you will almost always fail. These experiments, likewise, afford additional proof that we see no object in its real place. It is known, by several authentic examples, that when a man loses an eye, it is a considerable time before he can exactly lay hold on the things which he wants to handle, but is obliged to grope about till he succeed.

There are, however, several anomalous cases which these principles will not account for, such as in determining a level, looking though a spy-glass, and firing a fowling-piece, in doing which, it is found preferable to shut one eye and use the other.

UNEQUAL POWER OF THE EYES.

It is much more common than most people would imagine, for one eye to be weaker than the other. The right eye is usually the stronger, probably from the greater vigour of all the nerves of the right side. To determine which of the eyes is the stronger, receive, on a table, the image of the sun, through a hole in a shutter of a darkened room, and look at it severally through glasses, coloured with the seven rainbow colours. If your eyes are equal, the sun's image will appear of a dirty white; if unequal, it will appear of the colour of the glasses which you severally look through.

Œpinus, on looking with his left eye through a pin-hole in a plate of metal, found, that the hole appeared larger, and the field of view more extended, when he shut his right eye, and still more when he covered it with his hand. He thought it arose from the enlargement of the pupil. The young man, who was restored to sight by Cheselden, thought objects appeared twice as large to both eyes, as to the one first couched.

SQUINTING AND ITS CURE.

It is, commonly, from the unequal strength of the eyes, that the defect of squinting is caused, the weaker eye being turned away from the object, to

avoid the fatigue of exertion. Defect of strength in any of the muscles of the eyes may, also, produce the same consequence. Habit or imitation may, likewise, occasion it, particularly in infants, before they have learned to move their eyes in concert. In some parts of Asia, it is said to be endemic. Squinting, even in cases of long standing, has often been cured by covering the stronger eye, and, of course, compelling the weaker to exertion. Perseverance in this plan, for a sufficient length of time, will strengthen the weak eye, on the principle, that exercise increases strength. The inquiries of Dr. Reid and M. Roux, on this subject, are well worth perusal.

OCULAR SPECTRA.

It is a general law of the senses, that the feelings which have been excited, perish when the exciting object is withdrawn. In several instances, however, it is some time before the organ recovers entirely from the affection. A stunning sound, however, for example, will seem to ring in the ear after it has ceased; and the taste of peppermint, or arnica, will affect the mouth for several minutes after the primary taste is gone. It is an affection of the eye, precisely similar, the phenomena of which are called *ocular spectra*. The authors, who have detailed experiments on this subject, are Buffon, Darwin, Wells, D'Arcy, and Young.

Take a piece of bright red silk, about the size of a wafer, and, having placed it on a page of white paper in bright sunshine, look at it steadily for several minutes. After having done so, remove the silk and look at the paper, and you will see a green spot on it the size of the silk. This green spot is the ocular spectrum. If you use green silk, the spectrum will be red; if orange, it will be blue; if blue, it will be orange; if yellow, it will be violet; and, if violet, it will be yellow. It is remarkable, that the white light of the sun, when deprived of its red rays, is green; when deprived of its green rays, is red; and so on, in exact conformity to what we have now said of the spectra.

The reason of this will be better understood, after making the following experiment. If, as in the first experiment with the circle of red silk, you continue to look for some time, the silk will gradually become paler, till its red colour disappear altogether; because the eye is thus fatigued into sensibility to *red*. But though it be rendered insensible to red, it remains sensible to the other colours, that is, it remains sensible to light deprived of red rays, which the experiments of Newton shewed to be green. The same reasoning applies to the other cases.

Spectra, however, may arise from different circumstances, though we can afford room for only a few additional examples. One of the most singular, is the perception of the circulation of the blood in the eye-

lids. This may be seen in one eye, or in both, at pleasure, by first fatiguing the eyes in looking at any bright object; closing them, and rubbing them with some force after they are closed; holding in the breath longer than is agreeable; and half shading them with the hand. It seems to be the veins which become visible, from the darker colour of their blood. In amaurosis, arising from superabundance of blood in the eye, some of the arteries of the inner eye become so visible, that their pulsations may be numbered; and, as this is constantly perceived, it becomes oftentimes very distressing.

By looking long at a black or a dark object, the eye becomes more sensible to light. An appearance which is familiar, we believe, to every body, will prove this. After looking steadily at a window in a dark day, or at the beginning of twilight, and, afterwards, moving the eyes a little, the panes will appear chequered with luminous lines, like the dark frame work of the window; the parts of the eye, where the frame work was at first painted, becoming more sensible to light, from being less fatigued.

After looking at a dark object on a light ground, and shutting the eyes, a red spectrum will be seen from the rays which penetrate the eye-lids. This explains, perhaps, the appearance of bloody spots upon dice, which has, sometimes, not a little terrified gamblers, who could not trace the cause.

The most common spectra, however, and, there-

fore, the most interesting, are those which Dr. R. Darwin calls *direct*, in which there is no change of colour from the first impression. Every body knows that a circle of fire is seen upon whirling a piece of red hot charcoal rapidly round. This must evidently arise from the continuance of the impression upon the retina. A landscape may, in the same way, be seen through the spokes of a rapidly revolving wheel, as if nothing intervened: a circle of pasteboard, cut like a wheel, and made to revolve at the end of a tube, will beautifully exemplify the principle. It is from a similar reason that the electric spark appears in a stream of fire, that the meteors of the upper air, called falling stars, seem to have a train behind them, and, perhaps, that the Aurora Borealis is seen in long streaks. May we apply this to the tails of comets, from their very great velocity of revolution? May we apply it to the rays of light, whose velocity appears nearly inconceivable?

When a person turns several times rapidly round on his heel, and then stops, all the objects around him appear to turn round, with an equal rapidity, in a contrary direction to that in which he had turned. Dr. Darwin at first supposed that this arose from the spectra of the surrounding objects continuing to appear in the eye. This was plausible; but Dr. Wells proved it wrong, by observing the same thing to take place when he turned round blind-folded. Dr. Wells, from observing the motion of the eyes

after turning round, supposed that it was this *real* motion of the eye, which caused the *apparent* motion of the objects. Dr. T. Brown made similar ingenious experiments, with the same results.

Dr. Darwin's ingenuity was sharpened by this seemingly complete refutation of his doctrine of spectra. He farther investigated the subject, by new experiments, and found that Dr. Wells was also wrong. For, on turning round, with his eye fixed, the while on a point in the ceiling, Dr. Darwin found, that the things in the room, instead of appearing to move horizontally, as in the former case, now appeared to move vertically, and that *the eyes did not move at all.* He also found, that blind persons on turning round were affected with giddiness in a similar manner, and had the feeling of the earth reeling under them. It was evident, therefore, that the primary cause was referable to the touch, and not to the sight, though the eyes are always affected. Blind persons, indeed, see spectra from pressure on the eye, if the retina is uninjured; but not after extirpation of the eye-ball, as those who have lost a foot continue to feel their toes. Dr. T. Brown thinks it is hostile to this explanation, that when we turn round on the heel of one foot, we are precisely in the state as if we had remained at rest, and a hard body had pressed against the heel. He refers the apparent revolution wholly to the imagination, and the staggering to the desire of avoiding the

uneasy sensation attending the revolution; and says, that we fix our foot at a greater angle, to counteract the supposed motion.

BALANCING.

That it is a phenomenon of touch, is farther illustrated, by what is felt after coming on shore from a voyage, or alighting after a long journey in a coach. For in these circumstances, the motion of the ship or the coach is distinctly felt; the ground appearing to rock under the feet like a cradle. We conclude that this arises from the habit acquired by the muscles of exerting themselves in preserving the balance. Dr. Brown, however, ascribes this to the law, that whatever interests us much will often recur to the thoughts, till it cease by repetition to affect us. By comparing these facts, we may discover why giddiness is produced by looking from a high tower, or at a rapidly running river, namely, from our mode of balancing ourselves.

We balance ourselves, in all cases, by observing the perpendicular position of the things around us, and managing our muscles of position accordingly. Should these guides of perpendicularity fail us, through any cause, we must, consequently, lose our balance. When we, therefore, fix our attention on any thing moving, such as a wheel, or a stream of water, we cannot, for want of experience and habit, perceive any test by which to discover our perpendicular position.

It is for the same reason that we become giddy on looking down from the battlements of a high tower, as we have no familiar object on a level with us, whence we may regulate our position; and, hence, Saussure advises those who wish to look down Alpine precipices with safety, to lie flat on their belly. The inability of infants to walk, arises, we think, more from their ignorance of perpendicular position, than from weakness of their muscles. A healthy infant of a few weeks old, can, for the most part, support himself firmly on his legs; and nothing hinders him from standing and walking, but want of knowledge. In the West Indies, the Negro children who are put down to tumble and crawl naked a few days after birth, learn to walk by the sixth or seventh month. In this country, it is commonly twelve months before they can walk. Those who were swaddled, according to the absurd custom once universal in Europe, could seldom walk under two years of age. When a person is giddy, he is very liable to fall, and also to become sick, and even to vomit. Sickness, on the other hand, induces giddiness from the connection, whatever it is, between the stomach and the head. This affords an explanation of the sickness experienced at sea; the pitching of the vessel causing those who are unaccustomed to it, to employ a different set of muscles, from what they used on land, to preserve their balance. Agreeably to this opinion, it is known, that the sickness is

increased by looking at the sea rolling past the vessel, and, also, when the motion of the vessel becomes greater. The sickness, likewise, is relieved, by keeping near the centre of the vessel, where the motion is least, and from lying in a horizontal position. This wa found, in the author's case, to be very effectual. Strong doses of opium he found not to have the least power in allaying the irritation of the stomach.

CRADLES REPREHENDED.

As similar effects are produced in people of irritable habits, by swinging, and even by riding in a coach, we infer, that rocking infants in a cradle must tend to derange their stomachs, and cause sickness and vomiting, till they are habituated to it, as sailors are to the motion of a ship. It must, unquestionably, influence the system, and may, we have no doubt, injure the brain, by producing water in the head. The practice we, therefore, think very reprehensible.

EXPERIMENT BY CHESELDEN.

Having now briefly detailed the mechanism of the eyes, and the theory of vision, so far as our knowledge extends on this difficult but interesting subject, we shall confirm it by a case which has for so many years been given in almost every work on optics and on the eye, that it could not here be properly omitted. Not that it is unique and solitary; but because

it is so well stated, and accords exactly with others of the same kind, except in a single instance, given by Mr. Ware, with a few trifling differences.

The case is that of a young man who had been blind from his birth, (probably, in consequence of the membrane of the pupil persisting?) and who was restored to sight by Mr. Cheselden by a surgical operation. When he first saw, he was so far from making any judgment of distances, that he thought, "all objects whatever touched his eyes, as what he touched did his skin." This was his own expression.

He knew not the shape of any thing, nor any one thing from another, however different in shape and magnitude. All the things which he saw, he thought extremely large; but, upon seeing things larger than the first, he conceived the first to be less. The room he was in, he said, he conceived to be part of the house; yet he could not conceive that the whole house should look bigger, for the picture of the room filled the whole area of his eye.

He was exceedingly anxious to recognise the things which he had formerly known by touch, but, upon being told, he very soon forgot them, and, at first, learned and forgot again, as he said, a thousand things a day. It was some time before he could distinguish the cat from the dog, and, being ashamed to ask often, he was observed to catch the cat, which he knew by feeling, and, after looking at her atten-

tively, he set her down, saying, "so, puss, I shall know you another time."

He liked scarlet, and said, it was the most beautiful of all colours. At first, black excited great uneasiness; and he was struck with horror at the sight of a Negro-woman. It was long before he could be reconciled to this colour. This is a very strong fact, we think, against the theory of beauty, advocated by Mr. Alison and Mr. Jeffrey, who maintain, that no colour, nor any thing else, is agreeable or disagreeable of itself, and that all is referable to association. (See the Theory of Beauty, in this work.)

About two months after he could see, he discovered, that pictures represented solid objects; though, up to that time, he had considered them as only party-coloured planes. Upon making the discovery, he expected that the pictures would feel like the things which they represented; and amazed, that objects painted in perspective felt flat and level, he asked, with much simplicity, which was the lying sense, touching or seeing? The proper answer would be, "Neither;" for sight and touch mutually assist each other, and we must learn to compare them by patient and repeated trials. These, indeed, we have all made, but most of them in infancy, some of them when only a few months old. As Voltaire well remarks, we learn to see in a similar manner as we learn to speak, to read, or to walk. Mr. Travers, indeed, thinks, with some

plausibility, that, if a person were deprived of touch, he could have no idea of visible objects, no more than a deaf man has of sounds. Dr. T. Brown, on the contrary, thinks this explanation is a begging of the question. "We pace around our circle," he says, "and believe that we have advanced." He himself offers no explanation.

It may not be out of place to mention here a case observed by Cabanis, of a youth whose brain was exceedingly small, and whose skull never had had sutures. He was deaf from birth, but all his other senses were sound and acute. He ate and smelt with great keenness, and was ever anxious to catch at every thing, particularly animals, whose soft feet pleased him; yet *he had no idea of distances.* James Mitchell, the Scots' boy, born deaf and blind, whose case excited so much attention a few years ago, had his touch, taste, and smell, preternaturally acute. By touch and smell he examined every thing within his reach. Large objects, such as furniture, he felt over with his hands; smaller objects he examined with his teeth and the point of his tongue. It was interesting to observe, in what a delicate and precise manner he applied the tips of his fingers; and with what ease and flexibility he would insinuate his tongue into the inequalities of objects.

In illustration of several of the preceding facts, we have incidentally stated some of the changes which the eyes undergo from infancy to old age. It may

not be improper here briefly to describe those changes, in a connected view.

EYES IN INFANCY.

The eye, like the ear and the brain itself, as Bichat remarks, is almost perfect, in all its parts, at birth. It is this largeness of the eye which gives children a sprightly look. Before birth, the pupil is closed by a membrane, which usually disappears about the seventh month of pregnancy, though, in some rarer cases, it continues after birth, and obstructs vision. Before birth, also, the eye-lids, though perfectly formed, are shut, as in profound sleep. The white of the eye is thin and semi-transparent, except where the tendons of the muscles are inserted. The cornea is much thicker and harder than it afterwards becomes; and, as it is less permeable to moisture, the eyes of infants do not at death assume the peculiar glazy appearance so characteristic of death in after life. The middle coat, the ciliary ring and its fringes, and the iris, are all perfectly formed, but have in the infant a reddish tinge, which subsequently disappears. The retina is thicker than in the adult, and its vessels more apparent.

The humours are copious, particularly the watery, and somewhat turbid, with a reddish matter. It is the abundance of the watery humour, and the prominence of the cornea, which make all infants

near-sighted. They, also, require several weeks' experience before they are able to move their eyes in concert; and, at this period, if care be not taken, they are apt to acquire a habit of squinting. The colour of the eyes of infants is usually lighter than it afterwards becomes, as, like the hair, it darkens by age.

THE EYE IN AGE.

The eye increases slowly in size till the time the stature is at its height, when it stops. In age, the humours diminish in quantity, and the globe of the eye, of course, becomes less prominently round; in consequence of which, the sight becomes more distant in focus. As the fat of the socket, and even the substance of the muscles, wastes away in advanced age, as it sometimes does in disease, the eye becomes hollow and sunk.

The humours, also, lose somewhat of their transparency, and become yellowish or greenish, particularly the glassy and the crystalline, which, with the duller colour of the iris, is the cause of the eyes losing their brilliancy in age. We have remarked, that the pupil is less defined at its margin, from the same causes. The nerve and retina are almost always diminished in sensibility, which is the most frequent cause of the blindness of old age. The cornea has, in some old people, become bony.

While all these changes, however, appear to be

for the worse, there is a very remarkable one for the better, which strikingly shows, that Providence is ever careful of our happiness.—The middle coat of the eye, which, during infancy and manhood, as we have seen, gives out a dark paint to condense the rays of light, becomes pale or nearly white in old age. By this means, the inner chamber of the eye is partially illuminated, like that of animals which feed in the night, and total blindness is prevented.

3. PRESERVATION OF THE SIGHT.

The best rule which can be given for the preservation of the sight, is that which is applicable to all the senses; namely, attend to the general health by temperate living, and by regular exercise in the open air; and by taking care that the bowels do not become too slow, which is often the cause of disordered sight. All exposure of the eyes to a very strong light, or to looking long and narrowly at minute objects, is bad. The regular bathing of the eyes in cold water, morning and evening, is the best and the only safe strengthener of the eyes. Warm night-caps and head-dresses, such as the Scots' bonnet, often injure the eyes by increasing the circulation of blood in the brain. Cold feet will produce the same effect.

A little care and caution would often save us a world of future trouble; but the worst of it is, few can be persuaded to take care of their health till it

be lost; and fewer still will do any thing to save their eyes, till their sight be injured beyond the repair of all eye-salves and eye-washes. Well, let the careless suffer; but we shall not leave *our* readers the plea of ignorance, for we feel it our duty, as the Rev. Mr. Irving has it, to "ring woe and doom" into the ears of all who neglect our precepts, the doom, namely, of blindness, and the woe of bad eyes in the dreary period of old age, when friends are gone, and the world is a blank.

The foundation of bad eyes, says Professor Beer, the Newton of oculists, is most frequently laid in the first weeks and months of infancy, by incautiously exposing the eyes to glaring light, and producing inflammation, and all its various train of specks, clouds, cataracts, and total blindness. If you carry an infant into the sunshine, or into bright light, it instantly cries from the irritation of the light on its tender organs; but this tells nothing to the ignorant nurse, who has her nostrums in readiness whenever the poor baby's eyes are red, swoln, and oozing with humour. The most injurious custom, also, of holding a candle or a mirror near the infant to see it take notice, as it is called, very often is the cause of severe inflammation, and loss of sight; and, if the child escapes this, it, most probably, has its eyes strained into an incurable squint. In more advanced childhood, the eyes should be

cautiously habituated to look at distant objects, in order to avoid the defect of near-sightedness, now so common among the upper and middle ranks, from the absurd practice of confining children so much to nurseries and school-rooms, and preventing their getting into open day.

When children are fit for school, no judicious parent would wish them to be crammed with education, till their minds become as pampered and bloated as the unsightly corpus of a glutton. Yet, such seems to be the order of the day, and the eyes of children are strained to very aching with hourly tasks of poring over twenty different sciences, which they may, indeed, be taught to smatter and parrot, but which it is utterly impossible they can ever learn. Many a fine girl has had her sight, in this manner, most cruelly sacrificed, by being compelled to strain her eyes for many hours daily, in poring over music; while it was denied her to refresh her sight with the "greenery" of nature, except in the absurd funeral-like processions which have, very aptly, been called, the "*walking advertisements*" of boarding schools. The eyes in youth must never be fatigued, says Beer, till the body acquires strength. For, if children are put to close study when their body is weak, the sight is in the utmost peril of being destroyed, and that before the parents are aware of the danger.

Our rule, then, amounts to this, that economy of the sight in infancy and youth is the best guarantee of its strength in manhood and old age. Even in manhood and middle life, we should look forward to the period when the lustre of the eye will be dimmed with years, and endeavour to spare the sight from idle or unnecessary fatigue; or, if this has at any time happened, to take means, without delay, to restore it to vigour. Of all other means of refreshing the fatigued eye, sleep is the most powerful; and, when you have been exposed over night to the glare of gas, or the sparkling of gilded or crystal chandeliers, while, at the same time, you were robbed of several hours of your accustomed sleep, let no urgency of business (if you value your eyesight) tempt you to get out of bed till your eyes feel refreshed; and, if any stiffness or smarting remain, lave them and the forehead with the coldest *soft* water you can procure, or have some poured over your head from a pitcher. If the smarting still remains after this, accompanied with a redness or swelling, and a feeling as if sand had got within the eye-lids, you may try the following.

ANODYNE EYE-WATER, FOR THE MORNING AFTER A PARTY.

Put 40 drops of the sedative solution of opium* into

* Liquor opii Sedativus, to be had at Mr. Battley's, Fore-street, Cripplegate, London.

four ounces of elder-flower water, and add three drachms of the *best* acetated liquor of ammonia;

Mix, and dip into it a piece of fine linen, and apply it to the eye, allowing some of the water to get within the eye-lid, and it will soon relieve you from uneasiness. When this is not at hand, put two tea spoonfuls of brandy or laudanum into a wine glassful of water, and use it in the same way.

IV. THE BEAUTY OF THE MOUTH.

The mouth has been quaintly called the throne of smiles, and smiles are said to be all sisters; yet how little do they resemble each other! Some are simple, ingenuous, modest, and innocent; others are tender, winning, voluptuous, and, if we may trust report, some of them, at times, are rather more than this; others are lively, gay, petulant, or witty; and others, mischievous, satirical, or ironical. Of all these lovely companions of the lips, the half-smile is, by far, the most lovely. We take the liberty of bestowing this name upon the virgin smile, which shows itself with such timidity, which peeps forth with such grace, and which dares not completely expand itself,—the smile, if we may say so, which is not so much a smile as the desire of smiling. The half-smile is the charming symbol of innocence

and candour, the emblem of virtue and of pleasure, simple, natural, and unsophisticated.*

The full-formed smile, however, is but little inferior to its younger sister. Somewhat less retiring and timid, it speaks with more spirit to the heart, and, the expression being more complete, tends to make it, perhaps, still dearer to the admirers of beauty; somewhat less ingenuous, it is, perhaps, something less tender, and, if it detracts a tint from native innocence, it enhances delight. The smile is, indeed, one of the most powerful charms of beauty. Its language is most expressive; mute, indeed, but eloquent. It is by a smile that a bashful beauty approves an avowal which her tongue belies, but with which her heart is flattered. How many conquests have been made by a graceful smile!

May it not be—is it not probable—that the poets and painters of antiquity found the model of Cupid's bow in the form of the female lip? Is not, indeed, the mouth of a handsome woman the most powerful weapon of that "mischievous boy," who, as has been observed by a lady of great wit, can subject the stronger sex to the dominion of the weaker? The lip is truly, then, the bow of Love; and, of all the arrows discharged by Cupid, the smile is, certainly,

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* *Encyclopédie des Dames.*

the most mischievous, and particularly the one which Milton says,

"Loves to play in dimple sleek."

L'Allegro.

Such is the power of a smile; but we cannot forbear remarking, that every thing, and even a smile, may be abused, from art being sometimes able to counterfeit nature. Those charming smiles, which grow spontaneously with such grace on the ruby lips of a youthful beauty, very often owe their existence to the combination of artifice. But how easy it is to distinguish the one from the other; for the smile which is the offspring of art has not, and cannot have, the native grace, which can only be bestowed by the hand of nature. Take care, then, not to confound the lovely expression of feeling and of pleasure, with the mechanical and studied movements of a counterfeit face. As the plants cultivated beneath a bell never have the free and natural attitude of those which grow in the open air, so the smile which is the child of art never possesses the graces of its amiable model; the one is ingenuous love, which appears in all its charms; and the other a dangerous net, spread by a treacherous hand.* Since, then, smiles are of so much impor-

* *L'Art de se Faire Aimer.*

tance to beauty, the lips, which are their chief instruments, must require the utmost care.

1. THE BEAUTY OF THE LIPS.

The colour of the lips,—the rich, fresh, ruby tint, so highly praised by poets, painters, and lovers, —depends chiefly on health, and we can almost insure it, without chance of disappointment, to those who attend to the rules for Beauty-Training, laid down above. As this is an all-powerful restorative of the healthy freshness and colour of the lips, we shall not take up your time with enumerating others of superior efficacy, but proceed to one of the most annoying affections to which the lips are subject; we mean,

CHAPPING.

The very thin scarf-skin or cuticle, which has no more feeling than the hair or the nails, is but slightly united to the thick true skin or cutis, and is easily detached. When the scarf-skin is, therefore, shrivelled, and, consequently, raised from the true skin by either cold or heat, it can never be brought to unite again, and leaves the true skin, which is acutely sensible, quite bare, raw, and sore; and this soreness soon causes irritation and inflammation. This is the genuine history of chapping, which may happen either from the heats of summer or the cold of winter, and usually attacks the lips, the face,

the hands, or any other part exposed to cold or heat. Moisture, also, by softening and dissolving the scarf-skin, has frequently a similar effect to cold or heat. Hence, the hands of washer-women and kitchen-maids, and the feet of the peasants' children in Ireland and Scotland, who go barefooted, are often severely chapped, or, as it is termed, *gars-gawed*.

To prevent chapping, the parts liable to it should not be unnecessarily exposed to heat, cold, or moisture; or ought to be well defended, by rubbing them with the

BALSAM FOR CHAPPED LIPS.

Take two tea-spoonfuls of clarified honey,
and a few drops of lavender-water, or any
other agreeable perfume;

Mix, and anoint the parts frequently. If the hands are affected, anoint them all over on going to bed, wearing your gloves on all night, and wash with tepid milk and water in the morning. A night or two will effect a cure.

Another excellent preparation is,

LADY E. CONYNGHAM'S LIP-HONEY.

Take two ounces of fine honey,
one ounce of purified wax,
half an ounce of silver litharge,
the same quantity of myrrh;

Mix over a slow fire, and add milk of roses, Eau de Cologne, or any other perfume you may prefer, and keep for use.*

2. BEAUTY OF THE TEETH.

The beauty of the teeth particularly consists in their position, their arrangement, and their regularity. These are but little under the dominion of art, though we can do much with respect to their whiteness and brilliancy. For this purpose, nothing is more important than bathing them every day with pure water which is not too cold, or with salt water; but hot should never be used. This is the simplest thing we can recommend; but it may be necessary to be a little more explicit with regard to the best

METHOD OF CLEANING THE TEETH.

More teeth are destroyed by ignorant and improper cleaning, than by all the other causes of toothache, tartar, and rotting, put together. All the authorities insist upon cleanliness being the best preservative; but you will find little said about the evils of tooth-picks, tooth-brushes, and dentifrices, which ruin the teeth of almost every body who uses them. Savages are well known to have almost uniformly fine teeth; and it is equally well known, that they have no absurd tooth-apparatus for their

* *Oracle of Health*, vol. i. p. 188.

toilette. Any kind of metal, such as a silver tooth-pick, is certain to break or rub off the enamel, and the usual tooth-brushes and dentifrices act upon this very much like a file. Now, if you once break or injure the smallest point of the enamel of a tooth, it is certain to decay, and ultimately to rot down to the gum. A blunt quill is a much better tooth-pick than either a silver or a gold one, though even a quill must be used sparingly, otherwise it will, also, rub off the enamel. The best thing we have heard for cleaning the teeth, next to rinsing the mouth well and frequently with warm, not cold, water, is the following

EXCELLENT TOOTH-BRUSH.

Before giving the genuine receipt for making this, we warn our readers that there are several spurious ones in print, the inferiority of which will at once appear from comparison. Procure two or three dozen of the fresh roots of marsh-mallows, and dry them carefully in the shade, so that they may not shrivel. They must be chosen about as thick as a cane, and cut to five or six inches long, then with a mallet bruise the ends of them very gently, for about half an inch down, in order to form a brush. Then take two ounces of dragon's blood, four ounces of highly-rectified spirits, and half an ounce of fresh conserve of roses, and put them in a glazed pipkin or pan, to dissolve over a gentle fire. When dis-

solved, put in your prepared mallow roots, stirring them to make them take the dye equally. Continue this till no moisture remains in the vessel, when the roots will be hard, dry, and fit for use. If you take care of them, they will last you for a considerable time. When you use this tooth-brush, it may be dipped in the following

WASH FOR THE TEETH AND GUMS.

Take the juice of half a lemon,
a spoonful of very rough claret or port wine,
ten grains of sulphate of quinine,
a few drops of Eau de Cologne, or oil of bergamot;

Mix, and keep in a well-stopped phial for use.

MEANS OF RELIEVING TOOTH-ACHE.

"When fevers burn, or ague freezes,
Rheumatics gnaw, or colic squeezes,
Our neighbours' sympathy may ease us,
Wi' pitying moan;
But *tooth-ache*, hell o' a' diseases,
Ay mocks our groan!"

BURNS.

"What would you recommend for the tooth-ache?" is a question which we often hear, though, we believe, it seldom enters into the thoughts of the questioners to consider what may be the cause of a particular fit of tooth-ache, or that the remedy must

depend upon knowing the cause. To expect a remedy, therefore, which will cure tooth-aches of all varieties, is almost the same as to expect a universal remedy for all diseases; but many people are foolish enough to dream of such a remedy for tooth-ache, and quacks take good advantage of the absurdity. The various causes which may bring on tooth-ache, are as endless as the diseases of the body, most of which may by sympathy affect the teeth; but a few are more common than others, and therefore require notice. Among these, the first is cold, which may produce violent tooth-ache, without any previous decay of the teeth; and rheumatism or gout may, in the same way, make an attack upon the jaw, and produce great pain and swelling, as occurs in the joints. Nervous pains, also, often settle here, from sympathy with some other disordered organ, such as the stomach, and, of course, when it is deranged the nervous tooth-ache comes on. Tooth-ache may, also, be caused by inflammation of the gums or sockets of the teeth; or from incrustations of tartar, or enlargement or tumours of the bones, called by surgeons exostosis. In all these cases, it is plain that extraction of the tooth will seldom do any good, and may do harm.

The most common cause of tooth-ache, however, is a decayed or hollow tooth, laying bare the nerve to the influence of the air, or the particles of food or drink which may get into the hollow. Some of

the old conjurors pretended that they possessed secrets for loosening hollow teeth, and extracting them without pain; an old gossiping person, who calls himself a physician, in a late number of the *New Monthly Magazine*, was fool enough to try helleboraster, milk thistle, henbane, and ashes of earth worms for this purpose! We need not say he was disappointed.

The cause of decay in the teeth is still unknown, though it is conjectured that it may arise from taking too hot or too cold food and drink, or from the undue use of acids. Sugar and sweet things were, at one time, denounced as the common cause of bad teeth and tooth-ache, but this is now believed to be a vulgar error. Those who are in the habit of using elixir of vitriol, will, if they are not careful to drink it through a quill, or a glass tube, soon find their teeth much injured. Hollow teeth are, likewise, often caused by dentifrices and tooth-powders.

When tooth-ache evidently arises from a decayed or hollow tooth, and the patient is unwilling to have it extracted, the first thing to be done is to ease the excruciating pain, which, as Burns says, bears the bell of all misery and rankest plagues. One of the most powerful remedies for this, is exciting some strong emotion of the mind, such as terror, hope, wonder, and the like, the great engines, by the way, used by Prince Hohenlohe, Mr. Baldwin, and other miracle-workers. If you have faith in the remedy,

the cure is certain. The notorious Valentine Greatrakes cured the tooth-ache by simply stroking the cheek; others, by blowing upon the patient; others, by a magnet held to the tooth; and any body, who can obtain belief and confidence, may cure it by saying, "Begone," or any other authoritative word.

When a patient is not sufficiently credulous to be cured by this sort of quackery, recourse may be had to opiates. A bit of opium, or some cotton-wool soaked in laudanum, may, with this view, be plugged into the hollow of the tooth. Camphor, dissolved in oil of turpentine, is also a favourite remedy, in the form of the following:

LOTION FOR TOOTH-ACHE.

Put two drachms of camphor
into an ounce of the oil of turpentine,
and let it dissolve; when it will be fit for use.

Cajeput oil is another valuable remedy for allaying the pain, when put into the hollow of the tooth. The most effectual, however, of all the remedies for destroying the sensibility of the nerve, is the putting of a red hot wire into the hollow, which will destroy the nerve, and prevent the return of the pain.

Pain in any other part of the body eases tooth-ache, chiefly, as it should seem, by affecting the mind, and distracting or withdrawing attention. A box on the ear, a blow on the shin, or on the elbow, has, in this way, often given immediate relief. It is

in this way, that any thing which smarts the mouth relieves the pain, such as hot water, tobacco smoke, or brandy, held in the mouth, or, what is still better, the

MUCILAGE FOR TOOTH-ACHE.

Take one drachm of the powdered leaves of pyrethrum,
and a sufficient quantity of gum arabic mucilage:
Make a mass, divide it into twelve portions, and take one into the mouth, and let it lie till dissolved, as occasion requires.

If an external application is preferred, the following may be rubbed on the outside of the jaw.

LINIMENT FOR TOOTH-ACHE.

Take an ounce of spirit of camphor;
three drachms of liquid ammonia;
ten drops of essential oil of bergamot:
Mix them in a phial for use.

A blister placed behind the ear, or burning the lap of the ear with a cloth dipped in boiling water, will often remove the pain entirely. The return of the pain, when the nerve is not destroyed, is best prevented by stopping the hollow of the teeth with melted sealing-wax, or with some metal, such as lead or gold. This, however, is best done by a dentist. It has lately been proposed, and is worth trial, to fill the hollow with some of the cements used by

stone masons, which harden under water. The cement could be put into the hollow in the form of a soft paste, and no water will ever dissolve it.*

3. ON THE BREATH.

Intimately connected with the beauty of the mouth, is the purity of the breath, which we shall now briefly notice.

One great cause of bad breath arises from a superabundance of what chemists call the *phosphate of lime*, existing in the fluids of the mouth, and forming crusts on the teeth, but too well known by the name of tartar. The tartar, besides being of a very bad smell itself, affords a lodgment for particles of food, which not only corrupt, but unite with the phosphate of lime in the saliva, and tend much to increase the disagreeable smell, which the warm air passing out of the mouth in breathing takes up and carries with it. In by far the greater number of instances of bad breath, this is the chief cause.

We wish that a remedy were as easily come by, as an explanation; but to devise an effectual one often baffles our best skill. In all cases of bad breath, it will be important to examine the teeth, to remove those which are hollow, and may, therefore, lodge a quantity of the phosphate of lime, and to clean

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* *Oracle of Health*, vol. i. p. 111.

regularly those which are sound with the tooth-brush, page 296. This, however, will only be a temporary expedient, and will not go to the source of the evil, namely, the superabundance of phosphate of lime in the saliva, which must be remedied, if possible, constitutionally. For this purpose, we recommend the following

REMEDY FOR BAD BREATH.

Take from five to ten drops of muriatic acid, in
an ale glassful of barley water, and add
a little lemon juice and lemon peel to flavour:

Mix for a draught, to be taken three times a day, for a month or six weeks at least, and, if effectual, it may be continued occasionally.

Another medicine of this kind, which has often proved beneficial when the stomach has been wrong, and the bowels costive, is, the

DRAUGHT FOR BAD BREATH WITH COSTIVENESS.

Take one drachm of sulphate of magnesia,
two drachms of tincture of calumba,
an ounce and a half of infusion of roses:

Make a draught, to be taken every morning, or every other morning, an hour before breakfast, for at least a month.

PHYSIOLOGY OF THE BREATH.

This subject will be best understood, after we have

explained in what manner the waste and refuse of the body is carried off—a subject of much interest, and involving many of the leading causes of health and disease—though it is not very easily followed by general readers; and we must request a stretch of attention from you, while we describe the removal of the waste of the body by the breath, &c.

One proof of the wearing of the body must have been observed by every one. On combing the hair, a great number of white scales fall from the head; and in wearing black silk stockings, they are often found covered on the inside with similar scales. The same would be seen, indeed, in every part of the body, were it not that circumstances prevent their being observed. These scales are portions of the thin and insensible scarf-skin, which has been worn and detached from its place. In the heads of infants, they sometimes become glued together by the matter of perspiration, and adhere again to the skin in form of a blackish grey crust. In cutting our hair and nails, we remove part of what is superfluous, but the loss is immediately supplied again from the blood.

In all the interior parts of the body, the same process of wearing is going on, as we have just exemplified in the case of the skin; but as the scales, or the minute portions of fluid, cannot be thence removed, like the scales of the head, or the sweat of the brow, a system of vessels, called, by surgeons,

the *absorbents*, is contrived to act the part of scavengers, and clear the body of its waste. Of course, these are found in all parts of the body. They run, like the veins, in the direction of the heart, and unite in a common canal, which enters the vessel that carries the digested food into the blood, where all the refuse and rubbish of the body collected in their course is emptied. This waste must, accordingly, pass into the blood, and it is carried with it to the lungs, and removed by the breath.* Of course, the breath becomes loaded with much impure matter, thus carried off from the blood in the lungs.

This is one part of the process, but it seems we are still very much in the dark on this subject; for it has not occurred to any one, so far as we know, to examine, with sufficient minuteness, the nature of these worn materials, which are thus carried off. It is very probable, though we know little of the details, that much of the waste of the body is carried off by the skin and the bowels. Great perspiration will soon emaciate and reduce the strongest man; and we know that, in many cases, children are much reduced by bowel complaints, which continue most profusely for days together, even when no food or drink whatever has been taken, whence this could have been derived. In this case, we are wholly ignorant of the how. Mr. Abernethy, in his lectures,

* *Oracle of Health*, vol. i. p. 315 & 366.

mentions the singular case of an infant which was born with its gullet quite closed up, so that it could take nothing by the mouth; yet its bowels were as regular as those of a healthy infant, and it lived nearly a fortnight. This cannot, in the present state of knowledge, be accounted for.

We are, at all events, certain of the facts above stated; and it has been computed, though upon no very accurate data, that the whole body is completely repaired, or changed, in the course of every seven years. We much suspect, indeed, that this number seven has no better origin than the ancient division of human life into periods of seven years; because, forsooth, there are seven planets, or because the world was created in seven days, or for some equally absurd reason. The changes and repair of the body must, if we consider it rationally, vary very much in different circumstances of age and health. We see how long some are in recovering their looks and plumpness after severe illness, and we see how rapidly others recover. The recovery is wholly effected by the materials supplied by the blood in its course, for repairing the worn parts of the bones, muscles, and skin, which have been carried off by the breath, and otherwise. Religious scepticism, which is always on the watch to borrow or to steal the aid of philosophy, has started, from these facts, a question as to personal identity at the resurrection; for, says the sceptic, since the body is so often changing its sub-

stance, whether will it be raised at the resurrection in a state of youth, of manhood, or of old age? We cannot enter farther upon this discussion; but whoever chooses to examine it, will see that it is founded, like many others of the same sort, on a verbal quibble; and it would not be very wise to frame a grave argument to oppose a quibble, or to attempt to refute a sneer or a witticism by philosophical reasoning.

It is worth remarking, that the vessels which remove the waste of the body take up *solids* as well as fluids, and, by this property, they become in some measure the modellers of the shape during our early growth; for while the arteries are bringing along with the blood the materials of bone, and laying it down on the outside of a bone, the absorbents are removing part of the inside of the same bone, to make room for the addition. In this light, Mr. John Hunter considered the absorbents as the builders of the animal fabric, or as the polishers of the rougher workmanship of the blood-vessels.

As the absorbents can remove even bone, as is seen from the edge of the bone of a cut-off limb being smoothed and rounded off, Mr. Hunter conjectures, that they must have mouths and teeth similar to entire animals; but we cannot think the conjecture happy, as the process is more probably chemical; such as that which takes place in the stomach of the dog, which can digest bone. Take an illustration from insects.

M. Reaumur, a curious and accurate inquirer, observed a butterfly, which he had in his study, alight on a piece of lump sugar, unwind its spiral tube, and begin to feed on it. Now, it was evident it could not draw up any sugar through its long narrow tube, till it was dissolved, no more than the absorbent vessels can take up bone, till it be dissolved. By careful observation, the naturalist found that the butterfly actually discharged upon the sugar a drop of liquid, which dissolved a portion of it, and fitted it for being sucked up. The absorbents, indeed, have not been observed thus to dissolve the solids which they take up; but it is more probable that they do so, than that they are, according to Mr. Hunter's conjecture, furnished with teeth. Our philosophy of the breath, therefore, abstruse and difficult though it be, will now, we hope, appear, to those who carefully examine what we have said, distinct and clear.*

V. THE BEAUTY OF THE HAIR.

The hair, says a French writer, is one of the most beautiful ornaments which nature has bestowed on humanity. It crowns the stature with grace, and, according to the fashion in which it is worn, it imprints a different character upon the features. So often as the hair flows gracefully from its roots, takes the form of finely-turned ringlets, and discloses

* *Oracle of Health*, vol. i. p. 358.

the forehead, it gives to the physiognomy an air of elegance and superiority. Frequently, there is a sweet natural parting of the hair from the top of the head to the forehead, causing that on each side to flow gracefully over the temples. In this case, it presents that beautiful line, which may be said to be continued in the nose, and gives to the contour of the features those traits of interest which are so much admired in the heads of Guido and Raphaël. Physiognomists attach a great value to this tendency of the hair to separate upon the fore part of the head; and they look upon the elevation which generally attends this, as announcing, in the individual, a character of sweetness, united to firmness, and a flow of ideas habitually elevated; in a word, the love of the beautiful and the sublime. We know not how far this opinion may be just, but daily observation, and the great works of the ancients, seem to give it considerable weight.

What spectacle, indeed, exclaims an elegant writer, can be more seducing than that of jet black hair, falling in undulating ringlets upon the bosom of a youthful beauty? Accordingly, the most celebrated poets, both ancient and modern, have taken a delight in singing the praises of fine hair. There is not a voluptuous or luxurious scene into which they have not introduced a description of this enchanting ornament. It is either a beauty besprinkling her hair with a shower of nectar; or Circe, whose hair,

spreading over her shoulders, resembles the rays of the sun; or Amasia, whose hair distils the perfume of myrrh and roses; or Venus, whose ambrosial hair emits divine odours. In every age, indeed, and among all nations, the hair has always been considered the chief ornament of the head; and when Homer mentions the celebrated fair, who set all Greece and Asia in arms, he always calls her "Helen with the beautiful hair."

If, indeed, you take away the hair of a beautiful woman, you strip her brow of this ornament; and, had she even descended from heaven, were she engendered by the sea, were she Venus herself, accompanied by the Loves and Graces, begirt with her cestus and perfumed with the most exquisite odours, if she appears with a cropped or a bald head, she cannot please: even her own Vulcan would think her disagreeable.

In order to have a full view of this interesting part of our subject, we shall commence with

1. AN ANATOMICAL SKETCH OF THE HAIR.

The researches of philosophers and anatomists have been much less directed to the examination of the hair, than could have been wished, or than the importance of it certainly merits; while in quadrupeds it has engrossed and justly occupied, in all ages, almost the whole concern of a large proportion of traffickers and manufacturers, in every part of the

world. This deficiency we shall, with the assistance of Mr. Chevallier, now endeavour to supply.

Both the longer hairs, and the pubescence or down, which consists of an infinite number of minute hairs, have this in common, that they grow from small bulbs imbedded in the surface of the inner or true skin, where they are supplied by vessels from a net-like tissue appropriated for their nourishment. From the outer surface of the true skin they pass through the membrane of colour and the scarf-skin, at very acute angles, closely embraced by both, especially by the latter, which sheaths their protrusion so firmly, as not to allow them to be easily detached, even after a length of maceration and putrefaction, which has been sufficient to destroy the membrane of colour; so that, in this respect, the hairs resemble the nails.

It is evident, from this arrangement, that the capillary perforations or pores, through which the hairs pass, cannot be perspiratory; for the obliquity of their course, and their firm adhesions, would oppose a serious, if not an insurmountable, obstacle to the transmission of any thing through them, while they are in a natural state. It must constitute a perfectly valvular obstruction.

The hairs are inserted, or, perhaps, we should rather say, rooted, on the exterior part of the true skin, in such a manner as, together with this obliquity of their direction, to make them astonishingly

secure in their allotted situations. In a great number of animals they appear to be like slender horns, conical in their form; and, as it were, hermetically closed at the point, and are periodically shed off. In the sheep, they continue to grow, that they may be sheared for the benefit of their purveyors and protectors. For wool is hair, adapted to particular circumstances; and we know that change of climate will, in some instances, cause a change from the one form of growth to the other, so as to fit the animal for its new residence. In man, they are tubular; and the tubes are intersected by partitions, resembling, in some degree, the sap-vessels of plants, such, for instance, as are beautifully seen in slitting up the leaves and stalks of the Bur-reed, called, by botanists, *Sparganium ramosum*, and other aquatic plants, which shoot up in the marshes their beautiful but obtrusive and deceitful verdure. The hairs being intended for protection from violence, as well as for covering, they are thus formed on the same principle as the bones themselves; their hollowness preventing incumbrance from their weight, with rather an increase than a diminution of their powers of resistance, on account of the rounded form of their transverse sections.

Whether the hairs transmit any secretion, may be worthy of inquiry. That those of the head have a peculiar odour, which is often retained for many years after their separation from it, is well known;

and we have cases on record, in which the removal of them from the head, at an early period after acute diseases, has been followed by alarming symptoms, scarcely to be accounted for by the mere additional exposure to cold. But, at all events, when the extent of the whole system of the hair is considered, it will be found to bear no inconsiderable or unimportant proportion in the animal economy; and it will necessarily follow, that those diseases of the skin, which extend deep enough to destroy their originations, must, on this very account, even were that all, expose the whole frame to some serious derangements. If the morbid state of one gland, as that of the breast, or an absorbent gland, shall affect the whole constitution with disease, these parts, so countless in number and essential in function, may be naturally expected to have an influence of large, though, perhaps, not immediately perceptible, amount on the general health of the body; making up, by their numbers, for the smallness of their size, in the share which they, and the pores into which they are inserted, take in the balance of the constitutional actions.

It must be further observed, respecting the pubescence or down of the skin, that the hairs composing it pass from the inner skin to the surface of the body in pairs or triplets, perforating the net-like vessels, and both the membrane of colour and the scarf-skin, at very acute angles; so that by the

form of their bulbous insertions, and the direction in which they proceed outward, they serve to connect together all the parts of the skin, like so many fine pins or fastenings, adding to the entireness and security of the whole system.

The structure of the bulbs or roots of the hairs, as developed by Mr. Chevallier, throws considerable light on the nature and on the remedies for that singular disease, the *Plica Polonica*, which, both in its progress and cure, as he ascertained from MM. Herberski and Wagner, confirmed the idea which he has suggested, of the system of the hair bearing a material proportion in several important cutaneous functions.

2. METHODS OF BEAUTIFYING THE HAIR.

Under this head, we shall comprehend a selection of receipts for improving the gloss, luxuriance, or colour of the hair, in order to put it in the power of our readers to become their own perfumers, which, in most cases, they will find to be a very considerable saving; the advertised and patent articles of this sort being usually very extravagant in price, and, except in one or two instances, far from answering the promises held out by those who are interested in puffing them. We shall begin our catalogue with a new hair-oil, which has lately been introduced, and is coming into great repute.

PALMA CHRISTI OIL FOR THICKENING THE HAIR.

Take an ounce of Palma Christi oil,
a sufficient quantity of oil of bergamot or lavender to scent it;

Apply it morning and evening for three months, or as long as it may be necessary, to the parts where you want the hair to grow thick and luxuriant.

The Palma Christi oil is much used, and with great success, for thickening the hair, in the West Indies; and, since it has been tried in this country, we have heard that it has been equally successful. It has this recommendation besides, that it is in the hands of neither monopolist nor patentee, but is open to all the world.

MACASSAR OIL.

We are assured, that this is advertised at the rate of some hundreds, if not thousands, annually. The public, of course, pay smartly for this as well as for the cheap materials of which it is composed. The following we believe to be the genuine receipt for its preparation.

Take three quarts of common oil,
half a pint of spirits of wine,
three ounces of cinnamon powder,
two ounces of bergamot;

Put it in a large pipkin, and give it a good heat.

When it is off the fire, add three or four pieces of alkanet root, and keep it closely covered for several hours. Filter it through a funnel lined with blotting paper. The commonest oil is used; and, when rancid, it is remedied by putting in two or three slices of an onion. Not an ounce of Macassar oil is imported from Macassar, or it would be entered at the Customs, which it is not.

Prince's Russia oil, and others of the same kind, are prepared in a similar manner, and of materials equally cheap.

EXCELLENT HAIR-OIL.

Boil half a pound of green southern wood, in a pint and a half of sweet oil, and half a pint of port wine.

When sufficiently boiled, remove it from the fire, and strain the liquor through a linen bag. Repeat this operation three times, with fresh southern wood; and the last time add to the strained materials, two ounces of bear's grease. It is excellent for promoting the growth of the hair, and preventing baldness.

PERFUMED OIL FOR THE HAIR.

Blanch a quantity of sweet almonds in hot water, and, when dry, reduce them to powder, sift them through a fine sieve, strew a thin bed of almond

powder, and a bed of fresh odoriferous flowers, such as lavender, jasmine, roses, &c., over the bottom of a box lined with tin. Do this alternately till the box is full, and leave them together for twelve hours. Then throw away the flowers, and add fresh ones, in the same manner as before, and repeat the same operation for eight successive days. When the almond-powder is thoroughly impregnated with the scent of the flowers, put it into a new clean linen cloth, and, with an iron press, extract the oil, which will be strongly scented with the fragrance of the flowers.

FRAGRANT POMATUM.

Put into a proper vessel, two pounds and a half of prepared hogs'-lard, with two pounds of picked lavender flowers, orange flowers, jasmine, buds of sweet-briar, or any other sweet-scented flower, or a mixture, according to your choice, and knead the whole, with the hands, into a paste as uniform as possible. Put this mixture into a pewter, tin, or stone pot, and cork it tight. Place the vessel in a vapour bath, and let it stand in it six hours, at the expiration of which time, strain the mixture through a coarse linen cloth, by means of a press. Now throw away the flowers which you have used, as being useless, pour the melted lard back into the same pot, and add four pounds of fresh lavender flowers. Stir the lard and flowers

together, while the lard is in a liquid state, in order to mix them thoroughly, and repeat the first process. Continue to repeat this, till you have used about ten pounds of flowers.

When you have separated the pomatum from the refuse of the flowers, set it in a cool place to congeal; pour off the reddish-brown liquor, or juice, extracted from the flowers; wash the pomatum in several waters, stirring it about with a wooden spatula, to separate any remaining watery particles, till the last water remains perfectly colourless. Then melt the pomatum in a vapour bath, and let it stand in it about an hour, in a vessel well corked; then leave it in the vessel to congeal. Repeat this last operation till the watery particles are entirely extracted, when the wax must be added, and the pomatum melted, for the last time, in a vapour bath, in a vessel closely corked, and suffered to congeal, as before. When properly prepared, it may be filled into pots, and tie the mouths of them over with wet bladder, to prevent the air from penetrating.

This pomatum will be very fragrant, and form an excellent preparation for improving the gloss and luxuriance of the hair.

GENUINE BEAR'S GREASE FOR THE HAIR.

We are quite convinced, that the reputation of this article is either wholly imaginary or greatly

exaggerated. Those, however, who may be of a contrary opinion, will thank us, perhaps, for a description of the genuine, to prevent them from being imposed upon. There are two sorts of it; one of the consistence of thick olive oil, which is procured by boiling from the fat about the caul and the intestines of the animal; the other, much harder and, in appearance, like frozen honey, obtained from about the kidneys. Both sorts have a rank, rancid, and intolerable smell.

LYE FOR STRENGTHENING THE HAIR.

Take two handfuls of the roots of hemp,
same quantity of the roots of a maiden vine,
same quantity of the cores of soft cabbages;

Dry and burn them, and make a lye of the ashes. Before you wash the hair with this lye, it should be well rubbed with honey, and this method persisted in for three days at least.

TO THICKEN THE HAIR.

Dip the teeth of your comb every morning in the expressed juice of nettles, and comb the hair the wrong way. This is said to have a great effect in promoting the growth of the hair. For the same purpose, it has been recommended to shave the head, and foment it with a decoction of wormwood, southern-wood, sage, betony, vervain, marjoram, myrtle, dill, rosemary, or misletoe.

HAIR-WATER.

Take the tops of hemp, as soon as it begins to appear above ground, and infuse them for twenty-four hours in water. Dip the teeth of the comb in this fluid, and it will tend to improve the growth of the hair.

HONEY-WATER FOR THE HAIR.

Take one gallon of good French brandy,
a pound of virgin honey,
a pound of coriander seeds,
an ounce and a half of cloves,
an ounce of nutmegs,
an ounce of gum benjamin,
an ounce of storax,
four vanilloes,
the rind of three large lemons;

Bruise the spices, cut the vanilloes into small pieces, put the whole into a cucurbit, and pour brandy on them. After they have digested forty-eight hours, distil off the spirit in a retort with a gentle heat.

Add to one gallon of this water,
a pint and a half of orange-flower water,
a pint and a half of rose-water,
five grains of ambergrise,
five grains of musk.

First, grind the musk and ambergrise with some of

the water, and afterwards put all together into a large matrass. Shake them well together, and let them digest three days and nights in a gentle heat; then let all cool. Filter the whole, and keep the water in a bottle well stopped, for use. Besides being useful as a hair-water, it may, also, be employed as an excellent cosmetic for the hands and face; putting, for that purpose, two tea-spoonfuls into a quart of soft water.

DEPILATORY VEGETABLE ESSENCE.

In order to remove such hairs as grow where you do not want them, as on the arms, the face, &c., the following has been recommended in books.

Take polypody of the oak, cut into very small pieces, and put a quantity into a glass cucurbit. Pour on this as much Lisbon or French white wine as will rise an inch above the ingredients, and digest it in a hot water or vapour bath for twenty-four hours. Then distil off the liquor by the heat of boiling water, till the whole has come over.

Apply this to the part where the redundant hairs grow, by means of a linen cloth, which is to be kept on during the night. The distilled water of the leaves and roots of celandine, is said to have a similar effect; and, likewise, oil of walnuts.

DEPILATORY LINIMENT.

The following is a much more powerful depilatory for destroying the hair; but, from its containing orpiment, we must warn our readers to be cautious in applying it.

Take a quarter of a pound of gum ivy dissolved in vinegar, a drachm of orpiment, and two drachms of gum arabic dissolved in the juice of hyoscyamus, in which half an ounce of quicklime has been dissolved. Make the whole into a liniment with a sufficient quantity of goose grease, and apply a little to the part where you wish to destroy the hair.

GRECIAN WATER FOR DARKENING THE HAIR.

Dissolve two drachms of nitrate of silver in six ounces of distilled water, add two drachms of gum water.

Perfume it with any essence you choose, and wet the hair which you wish to dye black. It is dangerous, if applied to the skin; and, though it does darken the hair at first, the black colour is apt soon to become purple. It is often sold at a rack price.

TO DARKEN THE HAIR.

It is recommended in books, but we cannot answer for the effect, first to wash the head with spring-water, dip a comb in oil of tartar, and comb the

hair in the sun. After repeating this operation three times a day, at the end of about eight days, it is said, the hair will be quite black.

The leaves of the wild vine infused in water are, also, said to render the hair black, and prevent its falling off. Many other things, such as green walnut shells, ivy-berries, poppy-flowers, &c., are recommended for the same purpose.

TO DYE THE HAIR FLAXEN.

Take a quart of lye prepared from the ashes of vine-twigs, briony, celandine-roots, and turmeric, of each half an ounce; saffron and lily-roots, of each two drachms; flowers of mullein, yellow stechas, broom, and Saint John's wort, of each a drachm. Boil these together, and strain off the liquor clear. Frequently wash the hair with this fluid, and it will change it, say the books, in a little time, to a beautiful flaxen colour.

3. DISORDERS OF THE HAIR.

Under this head, we may place grey hair and baldness, which need not detain us long, as the first may be remedied by the hair-dyes which we have just given, and the second prevented, or much improved, by the oils above-mentioned, particularly that of the Palma Christi. The disorders of the hair, which arise principally during childhood, which we shall notice very briefly, must conclude this article.

RING-WORM AND SCALD-HEAD.

Among all the affections of the hair, none gives greater trouble than the scabby eruption at its roots, commonly termed, ring-worm and scald-head, and, by the doctors, *tinea* and *porrigo*, for the purpose of blinding the people, and giving themselves the air of knowing ones among their own tribe. The worst circumstances attending this disorder are its obstinacy and its infectious nature, being readily communicated from one child to another by contact. When the scabs are once formed, they confine the acrid matter under them, which frets and irritates the skin, and tends to spread the disease.

The first thing, therefore, that is indispensable to the cure, is carefully loosening the dried scabs, and picking them away. Soap and warm water is the best thing for this purpose, and ought to be carefully repeated, both morning and evening. A single neglect will lose you all the ground you may have previously gained. All the hair which will come away without pain ought, also, to be removed; then you may try the

CLEANSING-WASH FOR SCALD-HEAD.

Take half an ounce of sulphate of potass,
one pint of lime water,
one ounce of soap liniment;

Mix, and make a lotion, to be applied twice or thrice a day.

As no one wash nor ointment, however, will continue above eight days to improve the eruption, which becomes accustomed to its stimulus, you ought to change this, as soon as it loses its effect, for the

CAMOMILE LOTION.

Take half a pint of strong camomile tea,
fifteen or twenty drops of the liquor of oxymuriate of quicksilver;

Mix, and apply twice or thrice a day. This is, also, excellent for old sores.

It might aid the cure, were a vapour bath of camomile or sulphur applied to this part alone, which could be easily done by a bladder, or oil-silk, applied tightly over the scalp and the vapour let into it.

Formerly, a wash of tobacco was held in much esteem; and, lately, the water obtained at the coal-gas works has been highly spoken of; but we are sorry to say, that all remedies are often found unavailing, and the disease will run on for months, in spite of the best and most skilful treatment.

VI. THE BEAUTY OF THE ARMS, HANDS, AND FEET.

In our comparison, which we acknowledge to have

been not of the most mannerly kind, between the arms and hands of a lady and a washerwoman, while describing the effects of exercise in the first part of this little work, we laid down the governing principle of delicacy and robustness, or, in other words, of beauty, in these important members. This is, that the less you exercise them the more pale and delicate they will become, and the contrary; and no soaps nor washes which you can try will be a sufficient substitute for inattention to this.

THE ARMS.

We recommend, particularly with respect to the arms, strict attention to what we have said respecting the beauty of the skin, and the means of improving it. Should any eruption, therefore, deform the delicacy of the skin, it must be carefully treated according to the rules which we have above given. Superfluous hairs, also, which frequently grow on the arms, and are so injurious to their appearance, must be removed. Try some of the depilatories mentioned when treating of the beauty of the hair.

THE HANDS.

The hand is the chief of our muscular organs, and, at the same time, of touch, properly so called. For these purposes, it is most exquisitely contrived and formed. The skin of the hand, and particularly that on the inside of the tips of the fingers, is

marked with lines variously convoluted. On the divisions between the joints, the skin is marked by furrows. This is, also, the case in the toes.

The fingers, though composed of bones and strong ligaments to give them vigour, are, at the same time, finely adapted for bending round objects and ascertaining their shape, and their inequalities, or their smoothness.

MECHANISM OF THE HANDS.

The wisdom of Providence is very strikingly seen in the mechanism by which the hand is moved. To give the fingers strength in grasping and in sustaining weights, powerful muscles were indispensible; and muscles, to be strong, must be large, or of considerable length. Now, had muscles, of the necessary magnitude to move the fingers with power, been situated in the palm or on the back of the hand, they would have rendered it thick and clumsy; and its lightness, mobility, and beauty, would have been destroyed.

To prevent this unsightly clumsiness, and, also, to give them a more powerful purchase from their length, the muscles which move the fingers are disposed of in the arm; some of them as high as the elbow-joint. They act on the fingers by means of long narrow tendons, like ribbons, which are firmly strapped down at the wrist by a cross-band of muscle, to prevent their rising out from the arm, as the

tendons called the ham-strings do at the back part of the knee-joint, in consequence of not being thus bound down.

This, however, is only a part of the mechanism. The tendon or cord which draws the ends of the fingers inwards to the palm, and which is inserted a little short of the nail, would have, also, started out inconveniently from the finger, like the string of a bow, had it not been bound down in the same way. On the inside of the fingers, however, a strap like the one at the wrist would have been too clumsy. Instead of this, the tendon or cord of the end-joint passes through a slit in the tendon of the second joint, which prevents it from starting out from the bone. A most beautiful contrivance! Nothing could have been better provided for uniting lightness, mobility, and strength.

The thumb is a very important part of the hand, and is, at least so far as strength is concerned, almost peculiar to man; for, in the hands of apes and lemurs, the thumb is small and feeble, and altogether ridiculous, as Eustachius says, and cannot act, as in man, in opposition to the conbined force of the fingers. The mechanism for moving the thumb is somewhat different from that of the fingers. The muscles of the fingers are placed, for the most part, in the fore-arm. The most important muscles of the thumb,—those which bend it in opposition to the fingers,—could not have been fixed in the arm,

as the required motion is across the palm. These muscles are accordingly placed around the inner ball of the thumb, forming a firm and vigorous assemblage of cords, ready to move the thumb in every useful direction. Their thickness and firmness make up for their want of length.

This is a brief sketch of what is at present known of the structure of the hand; but it would require a more accurate and particular investigation than has yet been attempted, to develope its whole mechanism and motions.

DIFFERENCES IN THE DELICACY OF THE HAND.

The delicacy of the skin on the hand and fingers is very different in those who pursue very different modes of living and of avocation; in the savage, the blacksmith, and the tailor. If this delicacy of the skin gives greater nicety of touch, as it must do; and if we be correct in ascribing our superiority to brutes to our sense of touch; it should follow, that those whose hands are delicate and soft, having a nicer sense of touch, would be more knowing than those whose hands are hardened, and their touch blunted, by hard labour.

This is so, to a certain extent; but it might mislead us, were we to carry the notion too much into detail. We are sure, that those who have delicate hands are more observant of minute things than others; and we are never to forget, that all our

knowledge is, in the first instance, made up of particulars. It does not, however, follow, that the person who has much minute and particular knowledge, has, also, the power of combining these particulars into general principles. Delicacy of touch is, certainly, one great means of acquiring a knowledge of the things around us; but it would be wrong to ascribe to it, as Buffon, Monboddo, and others have done, all our superiority over brutes. The touch, indeed, does not seem to have so much superiority over the other senses; for, though it frequently assists the eye and the ear, these, in turn, as much assist the touch.

THE FEET.

The feet, as well as the hands, are useful organs of touch, particularly in a state of barbarism. The custom of wearing shoes in civilized countries tends to injure and blunt the sense of touch in the feet; yet, how much soever they may be confined by dress, it is by them chiefly that we preserve our attitude; that we are guided in feeling for the plane on which we are to rest them; that we are enabled to judge of the solidity, of the temperature, and of the inequalities, of the ground on which we tread.

The division of the fore-part of the foot into toes, enables us to stand more firmly, and walk more easily. Those who lose the toe by accident, walk in a tottering manner, and, on uneven ground, often

lose their balance. How so genuine an observer as Cabanis, therefore, could think that the sensibility and form of the foot is contrary to the philosophy of final causes, seems, to us, very singular.

There are several affections which tend to injure the hands and feet, and, therefore, will require to be briefly noticed here. The principle of these are chilblains and corns.

CHILBLAINS.

Children and old people, or those who are weak and delicate at any age, particularly females, are most subject to chilblains, which arise from deficiency of vigour in the fibres of the feet, the hands, and sometimes even the nose, ears, and lips, at those particular seasons, when

> "The parching air
> Burns frore, and cold performs the effects of fire."
>
> MILTON.

Exposure to great cold, or currents of cold air, will produce chilblains, even in the most robust. At first, there is redness, swelling, a sense of tingling, and intolerable itching, which is increased by heat. As it proceeds, the part becomes blue, and the painful itching excessive. Then little vesicles arise, burst, and leave the part sore and ulcerated, often eating deep into the flesh, and even to the bone, and in this stage the sores or kibes are extremely obstinate and difficult to cure, and mortification may

ensue. Such is the course of the disease, if neglected or badly treated.

To prevent chilblains, never run rashly to the fire when your hands or feet are very cold; nor expose your hands and feet suddenly to cold when they are warm and perspiring, as, in either case, chilblains will probably arise. Hence, a cold current of air let into a warm room by the opening of a door, is, among delicate females, the most common cause of the complaint; or sitting much by the fire in cold weather, as a current of cold air is always blowing towards the fire, even when the doors are shut. Ah! then, you will say, how are we to escape chilblains, as you will not exempt us even in close rooms, with shut doors?

We know not by how many mothers we have been told that their daughters had no chilblains before they went to school, or that they became much worse there. According to indubitable information, when girls of the same family have gone to different schools, this has happened to them all alike. The following is one of the memoranda, which we have sometimes thought it right to request, that the deliberation of writing might correct any errors in the first recollection. "None of my children had chilblains at home. The eldest first went to school at thirteen; the second at eleven, the third at twelve, where she is at present. Each got chilblains the first winter."

It seems, therefore, safe to assume, that this complaint is much less prevalent in private families, except among particularly spirited adventurers in the snow; and that, at schools, it seizes on new-comers, with as much certainty as the ague upon strangers on their arrival in the fens, or as the yellow fever upon Europeans, when they set foot in the West Indies. It is an artificial malady, in general produced by the application of sudden heat to extreme parts, benumbed with cold. The previous coldness is an essential circumstance. In different habits, different degrees of previous cold and subsequent heat will produce chilblains. But where they so frequently occur, the first indispensible cause must operate severely. The general feelings corroborate the inference, from the effect on the hands and feet. The fact has been well remembered, whenever we made the inquiry. In winter, the nine, ten, or twelve tedious hours of school, and of preparation for school, particularly the former, were, in a greater or less degree, an uncomfortable, chilly, shivering season; leaving upon the memory a strong, painful, impression, and a worse upon the system.

It is difficult to imagine, that either this gross mismanagement, or its consequences, should not have totally escaped governesses and parents. But however that may be, they may be sure that there is not a single species of disease, indisposition, or incapability, prevalent among women in this country,

which it is not fully sufficient to induce. Not a constitution but it will help to undermine. We have heard it related by many mothers, that, after a residence of some months at school, a periodical function, peculiar to the female frame, has ceased altogether, or run into excess. Either of these irregularities will follow the action of continued cold; and we will venture to propose the prevalence of chilblains, as a simple and indubitable criterion of improper treatment, and of a weakened constitution. In children the most puny, and the most disposed to chilblains, they may be prevented by a very little care.* They are, it is true, suffered to take place, to an equal degree, in private families—sometimes, because attention is totally absorbed by vain acquirements, (though all acquirements are vain, if health be not secured,) and sometimes, because the very desirable quality of hardiness is sought by a preposterous method. But a large proportion of young women, who have suffered long from chilblains, whether at home or abroad, will always be found to fall into fatal disorders about the æra of maturity, or to become miserable invalids for the subsequent part of life.

PREVENTIVE OF CHILBLAINS.

Take a quantity of alum, make a strong solution of

* *Oracle of Health*, vol. i. p. 186.

it in cold water, and bathe the parts with it night and morning. You may make it still stronger, by using an infusion of galls, or oak bark, instead of plain water. The water caught from oysters, while opening them, is also good.

REMEDY FOR CHILBLAINS.

Dissolve two drachms of acetate of lead,
in half a pint of cold water; add
a glass of good brandy or rum.

Mix till it becomes of a uniform white; dip linen cloths in it, and apply them to the parts, renewing them frequently during the day.*

This is often sold high, as a quack medicine.

CORNS.

Mr. Samuel Cooper, in his valuable Dictionary of Surgery, gives the following, as an

INFALLIBLE CORN-PLASTER.

Take two ounces of gum ammoniac,
two ounces of yellow wax,
six drachms of verdigris:

Melt them together, and spread the composition on a bit of soft leather, or a piece of linen. Cut away as much of the corn as you can with a knife,

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* *Oracle of Health*, vol. ii. p. 235.

before you apply the plaster, which must be renewed in a fortnight, if the corn is not by that time gone.

VII. THEORY OF BEAUTY.

SKETCH OF THE PRINCIPAL THEORIES.

Plato, in his two Dialogues on Beauty, seems to think that it consists in proportion and symmetry, if he have any fixed opinion at all. But symmetry will not account for the beauty of rocks and ruins, nor even the beauty of a moss-rose, which is more beautiful in proportion as the flower leaves are irregular and luxuriant in their embossments.

Cicero thought that beauty consisted in uniformity and agreement, which is disproved by the skin of the leopard, on which no two spots are alike. In the flower, called, by botanists, *Gloriosa superba*, and in thousands of other flowers, there is the greatest irregularity, and yet all acknowledge them to be beautiful. St. Augustine resolves beauty into truth and unity, which is not, at least to us, very intelligible; for if we say that we are pleased with a rose or a fine face, on account of its unity, we may as well say that we are pleased with a pig or a dunghill, because of their unity and truth.

Crouzas, who was a good thinker, and wrote a good book on the Art of Thinking, says, that beauty consists in variety, unity, regularity, order, and proportion; which enumeration is certainly by much too indefinite to be of any use; and some of the

qualities seem to be inconsistent with others. Beauty, however, by this account, seems to consist in something or other.

Hogarth, in his celebrated Analysis of Beauty, refers all to intricacy and waving lines; but this will not account for the beauty of a well-built square in a city, nor of the pyramids of Egypt; though *he* also thought that beauty consisted in something or other.

Lord Shaftesbury, Akenside, and Addison, referred to a particular internal sense, which at once discovered beauty in all cases, in the same way as the eye discovers light: but this certainly cannot be; for what appears beautiful to one, may not appear so to another, which could not happen if we had such a sense, no more than it now happens that we never mistake light from darkness. Dr. Hutcheson, in his Inquiry into Beauty and Virtue, had a similar dream about internal senses. Hutcheson, however, did not rest with the statement of an internal sense, but said, that the objects of this sense were not beauty alone, but its constituents, which, according to him, are utility, uniformity, and variety; but which seem to us to be, in many cases, quite incompatible with one another. Again, if utility is beauty, where is the use of rose-buds and paintings. Unproved as this account is, it, like the others, acknowledges that beauty is something in the beautiful object, and not a fancy, as later authors assert.

Burke, and a living author, Mr. Price, think, that beauty is referable to what is little, smooth, delicate, and easily injured; which, according to them, produces a relaxation in the tone of the senses, and of the whole bodily frame. If this were the case, labour and warm rooms and hot tea would be the most beautiful of all things, because they produce relaxation, and the cold bath and an electrical machine would be supremely ugly and disgusting. If what is little and smooth be the character of beauty, then are garden peas more beautiful than lilies, and children's marbles than oranges or moss-roses.

Lord Kames, and Gerard, and Diderot, refer us to relation, for an explanation of the pleasure derived from beauty; but, to us, this explanation is much more difficult to understand than the thing to be explained, and this is certainly not the character of a good explanation, which should always be plain and clear, and not liable to doubtful meaning.

Father Buffier and Sir Joshua Reynolds give the strangest account of beauty, making it to consist in what is common or ordinary, or which is in the middle of two extremes. Nothing but the love of theory could have induced any man to maintain such an opinion as this; for it would go to assert, that bread and butter is beautiful, because it is common; and a thousand other things, which nobody ever called beautiful.

ALISON'S THEORY OF ASSOCIATION EXAMINED.

Not to spend more time in enumerating theories, most of which have long ceased to be maintained, we shall now be more particular in what we have to say of the prevailing theory, founded on the doctrine of association, as given by Hartly, and the rest of the vibration school of metaphysics. It was first, however, applied to explain the nature of beauty, by Mr. Alison, of Edinburgh, in his work on Taste, which, for a time, put all others in the shade; and it has lately had the avowed support of the conductor of the *Edinburgh Review*, in the article Beauty, of the *New Supplement to the Encyclopædia Britannica*. It is worth tracing the history of this support. Mr. Jeffrey, on account of close friendship with Mr. Alison, found it just and proper to give him the almost unqualified aid of his very popular Review; and finding none of his contributors willing to undertake the defence of what was so indefensible, he undertook the task himself; and having once pledged himself, and supported several *viva voce* attacks, he became, like Mahomet, a firm believer in his own dreams, and now stands forward in their scientific defence. After the fiat of the Review, he seems to suppose that nobody would dare to differ from him and his friend, Mr. Alison, whom he has so loudly praised as a *profound thinker*; a circumstance which nobody, besides himself, has ever, we believe, found

out. The genius of Mr. Alison and Mr. Dugald Stewart seem to be very nearly allied, though Stewart is certainly the best thinker of the two, and, consequently, the more manly writer; but they are both, for philosophers, by far too fond of prettiness and polish, and would rather sacrifice the meaning of a sentence, than reject a bit of tinsel to make it glitter, or a smooth word to make it glide smoothly along, like a calm placid stream, murmuring sweet melody in its flowings; or the mellow breathing of the zephyrs, fanning the flowers of Spring in their infant blossoming, and in all their calm and lovely sweetness, tender as nature, and graceful as an angel's smile, when the dawn of morning is fresh with dew, and Summer laughs, from the rosy cloud, on the green valley and the gleaming ocean; or when Autumn arrays herself in golden robes and sober gladness; or Winter hangs his snowy mantle over meadow, field, and tree, veiling all the glory of Summer's greenness in one wide sheet of dazzling white, that beams on the eye, and chills the fine beatings of the heart with freezing frost!!!

Nothing in literature is of easier acquisition than a gaudy ornamented style of this kind; it is, indeed, the usual style of youth and inexperience in composition; it continues to wanton and flutter about them, to the great delight of those who can put up with the sound and melody of words, and the glitter of dew-bespangled metaphors, instead of useful

knowledge, and vigorous displays of the energy of thought and feeling. Compare the pretty and the polished style of Mr. Alison with that of Burke, in his Treatise on the Sublime, or with that of Mr. P. Knight's book on Taste, and you will at once perceive what we mean; as these three books are on the same subject, and, consequently, can be more properly compared, than if the subjects were different. Burke was very young—scarcely twenty-five—when he wrote; Alison was nearly twice that age; and yet, from the vigour of mind displayed by Burke, and, most of all, by his freedom from out-of-place ornament, and from affected polish and melody of style, we might take him for an experienced writer; while Alison may be readily mistaken for a youth of sixteen, fond of showing his holiday clothes, and of piping pastoral airs on the Pandean reeds.

Let us be understood, however: we do not wish altogether to condemn the style of Mr. Alison, for this reason, that his book is read by many on account of its pretty style alone; and as it does contain a few things besides pretty words, such persons may be led from it, to take up some better book on the subject. In this way the book has done, and may do, good. But it has also corrupted the style of many of its admirers, by leading them to mistake a profusion of ornament for elegance, and a smooth running sentence for deep and useful thinking. Far

be it from us to object to an ornamented style: it is the highest aim of good writing; but to obtain this character, it must not be daubed over every sentence, so that the ornament is the only thing visible. We have no objection to an author's besprinkling his page with dew-drops and rose-buds, and murmuring or meandering streams, if it appear that these make his subject more intelligible, or even more winning to the reader. Our objection lies against the style, which is style alone, and loses sight of the subject, in the eager hunt after fine expressions and tinsel metaphor; and all the smooth simpering of melodious and mellifluous words, gliding sweetly on the ear of fancy, and lulling the very soul of feeling.

The theory of association, maintained by Alison and Jeffrey, requires us to believe the very startling assertion, that there is nothing really beautiful in existence, and that whatever we call beautiful is not so till we dream that it is so; till we combine it, in short, with something else; which something is not itself beautiful, any more than the first. This seems strange enough; but, perhaps, it may be supported on distant analogies, such as that two things of different natures,—an acid and an alkali, for instance, being chemically combined, will produce a third substance, very different from either the acid or the alkali,—will, in short, produce a salt. But, though this is a strong analogy, and others of the same kind

may be found in abundance, we cannot, certainly, upon this ground, prove that two things, which have no beauty, shall, by having the ideas representing them combined in the mind, become, from that circumstance, beautiful. We have no objection to the assertion, (for it is a fact,) that disagreeable and even ugly objects become pleasing, and even beautiful, by association; but we maintain, that, in order to do so, they must be associated with something pleasing. Mr. Alison denies this, and says, there is nothing either pleasing or beautiful in itself, but only by association. It is the combination, according to him, which causes beauty; and nothing can be beautiful, which is not the result of combination. Now, at the very first, we would infer, if this is true, that we can, at our will and pleasure, make any thing beautiful by a mere combination of ideas; or rather, that if association be the only principle, the only basis of beauty, then is every association of ideas in our minds beautiful; if it is not so, the theorists must have recourse to some other principle of taste, than the exclusive one of association.

Mr. Alison, however, is not contented with the general assertion. He goes into the most minute illustrations, to show that there is no intrinsic beauty in form, in colour, in sound, or in motion. We think he might, by a similar logic to the one which he has employed, have disproved the existence of beauty altogether: for, if a rose is not beautiful, on

account of its colour, nor on account of its form, then, we think, it must follow, that the rose is not beautiful at all. No, says Mr. Alison, it is beautiful; but why?—Because it is like an infant's cheek in colour, and form, and smoothness! To us, this account of the beauty of a rose seems exceedingly far-fetched and unnatural. We can only speak from our own feelings and consciousness; and we certainly cannot trace in our minds any reference to the cheek of an infant, when we admire the beauty of a rose; nor, even if we did join this notion to the perception of the rose, would it in any way enhance its beauty, to our conception.

The most wonderful part, however, of Mr. Alison's announcement is, that though a rose is beautiful for no other reason than that it is like an infant's cheek, yet the infant's cheek itself does not possess a particle of beauty. Hear Mr. Jeffrey's account of the beauty of childhood. "The forms and colours," says he, "that are peculiar to that age, are not necessarily nor absolutely beautiful in themselves. It is their indestructible connection with the engaging ideas of innocence, of careless gaiety, of unsuspecting confidence,—made still more attractive by the recollection of helplessness, and blameless and happy ignorance,—of the anxious affection that watches over all their ways, and of the hopes and fears that seek to pierce futurity, for those who have neither fears, nor cares, nor anxieties, for themselves." And

all this, we are told, is necessary, in order to perceive that a rose is beautiful!! All that we can say is, that our philosophers must go to work in a very different way from other people, in the discovery of beauty; for if this is the true account of the matter, how, we would ask, did it so long escape discovery, for it is not one of those things which would require investigation? It would be at once felt, whenever a rose appeared beautiful, that it was not any thing in *it*, but the comparison between it and an infant's cheek, which gave rise to the feeling. Is this so? We appeal, readers, to your feeling, whether you always make this comparison when you feel that a rose is beautiful; or, whether you do not perceive something in the rose itself, independent of any Alisonian comparison, which seems to you beautiful.

Take another example, in Mr. Alison's own words. "What is the impression we feel from the scenery of Spring? The soft and gentle green with which the earth is spread, the feeble texture of the plants and flowers, and the remains of Winter yet lingering among the woods and hills, all conspire to infuse into our minds somewhat of that fearful tenderness with which infancy is usually beheld. With such a sentiment, how innumerable are the ideas which present themselves to our imagination; ideas, it is apparent, by no means confined to the scene before our eyes, or to the possible desolation which may

yet await its infant beauty, but which, almost involuntarily, extend themselves to analogies with the life of man, blending before us all those images of hope or fear which, according to our peculiar situations, have the dominion of our hearts."

And all this, we are taught to believe, is the philosophy of taste! Before we can think Spring beautiful, we must compare it with a fresh but feeble infant, which we survey with *fearful tenderness*. Such a comparison, we have no doubt, is beautiful, and very beautiful; but do we always make this comparison before we feel the beauty? Does every one make such a comparison? We think, experience will answer, no; and decide the theory to be exceedingly partial in its deduction, and forced in its conclusions. We certainly do, in many cases, increase the beauty of objects by association. The fallacy of the Alisonian theory is, that there is nothing beautiful at all, unless we first array it in the pretty drapery of comparison; no, not even the thing compared. We wonder—we are astonished—how Mr. Alison ever found, as we are told he has found, so many disciples among the fair sex, when he has the boldness to tell them, they neither have nor can have a particle of beauty. All the beauties perceived by their admirers are quite a dream of comparisons and associations with roses, infants, and healthy-looking milk-maids. The fascination of Mr. Alison's style must, to some minds, be certainly

very powerful, when he can so insinuatingly persuade them to think he is right in saying they have no beauty; no, nor the infants they are compared with, who have, also, no beauty, except what depends upon another series of associations and fancies. If you push him further, you find that the series is interminable;—that there is no end of his chains of association;—nothing of itself beautiful;—nothing to be the basis of beauty:—it is exactly the Indian account of the earth resting on an elephant, the elephant on a tortoise, and the tortoise on something unknown or unknowable! And this is profound thinking! We have no doubt of the fact; for it is wholly without bottom, like the metaphysical dream of infinite space.

We have no great opinion of the power of a definition to settle a dispute; but we think the explanation of a term, or the description of an idea, so far as this can be done, is indispensable. We think, if this had been properly done, we should have been saved much trouble in unravelling such theories as this of Alison. It is more to the ambiguity and uncertainty of general terms than to any other cause, that we owe so many subtle disputes. For instance, the disputes about the properties of matter and spirit; both of which are general terms of which we have not, nor cannot have, the slightest idea. There is no such thing as spirit;—there is no such thing as matter, no more than there is such a

creature as a man or a horse independent of individual men and horses;—there is no such thing as a general man;—there is no such thing as a general tree;—there is no such thing as a general matter or a general spirit, independent of particulars. Man and horse, and matter and spirit, as well as beauty, are all mere terms without any corresponding conception in the mind, or any existence out of the mind. There are individuals,—there are particular beings, material, or spiritual, or beautiful;—but it does not follow, that there is such a thing as matter, or spirit, or beauty, independent and away from what is beautiful, or spiritual, or material; that is, as we apprehend, *touchable;* at least, so it appears from those who write learnedly about matter and spirit. If this be true, as to us it appears to be, then are all the fine-spun and profound discussions about these nonentities good for nothing, in so far as they go to talk of what does not exist, except in their own fancy: and not even there, if they are constituted like other men; for they cannot even fancy nor conceive of general beauty, if taken away from some particular object which is beautiful; nor of general matter, if taken away from some object that can be touched and felt. When we can once be shown this general beauty, or be made to conceive it or fancy it, then, and not till then, can we understand the general reasoning about it.

According to what we, at present, understand of

the subject, there seem to be as many kinds of beauty, totally distinct and different, as kinds of matter, totally distinct and different. There is, for example, the beauty of a rose, and the beauty of a landscape, the beauty of a house, the beauty of a human face, and the beauty of a mathematical demonstration; and it appears to us, that all these beauties are as different from one another as iron and water, and magnesia and oxygen; and, if they are so different, as you must allow they are, we must doubt of the soundness of any general principle, such as that of association, to account for a uniformity; which uniformity is itself an assumption, and contrary to fact; for there really is no resemblance between the beauty of a landscape and the human face, though Mr. Alison tries, in his profoundest manner, to show that there is.

The whole inquiry has originated, as it seems to us, in a principle of human nature which all must have observed: that of applying indolently, and without discrimination, the same word to twenty different things. One of the first things which a stranger observes in the language of the street, is the very frequent repetition of the word, "elegant," to things the most dissimilar. In the Irish market, every thing you bargain for is *elegant*, from the basket of eggs up to the corpus of a fresh-slain hog; and we have no doubt, that many of the people there would descant most warmly on an *elegant*

dunghill, or a pig-stye. Individuals, again, will fix upon a word that is not usual among the generality. The words, *vast* and *vastly*, are favourites with some; and *terrible* and *terribly*, with others. It is on this very principle, we are convinced, that the word beauty has become so miscellaneously applied; and now we have philosophers wrangling about the cause of this beauty, which is, in many cases, an unmeaning generality, and good for nothing, but for filling up a sentence, and rounding a period. What would be thought of the philosopher who would institute an inquiry into the *vastness* of a rose-bud, because many will call it *vastly* pretty? Such, however, are many of the philosophical investigations respecting beauty.

The word beauty, it has been contended by some, is originally referable only to objects of sight, and all its other applications are metaphorical. If so, then why is it thought necessary to inquire after beauty in general, when there can be no such thing as beauty in general, separate, independent, and away from some particular object which is beautiful? Yet this beauty, in general, seems to be the only object of inquiry among our writers on taste. It would be obliging in these writers, if they would have the goodness to show us this beauty in general, that they would exhibit it in some tangible or viewable form, that we might know exactly what we were searching for, and know certainly when we

made the discovery. In the present mode of going into the inquiry, we can never tell when we are right, and when we are wrong, for want of knowing what the general beauty or the general sublimity is that we are searching for, and we may as readily pass it as otherwise. A system or a theory concerning it cannot, therefore, be well said to be either right or wrong. They are exactly of a piece with the logic of the schoolmen, which goes on from propositions to deduce conclusions in other propositions, the subject being lost sight of, or deemed of very inferior consequence, to the serried phalanx of propositions.

But, vague and useless as such speculations are, it is as delightful to trace their history as that of any art or invention;—it is delightful to trace the workings of human intellect in its infancy and in its maturity; to see the slow and feeble advances which it requires years to make, but which are sure and steadfast when they are made. There is, certainly, an infancy in nations as well as in individuals; there is, certainly, also, an infancy in literature and philosophy, which slowly grows up to youth, to vigour, and to manhood; there is a dawn of intelligence, which gradually brightens and glows till, at last, "flash its full lightnings by," blazing forth in all the meridian glories of national improvement. And, surely, it is delightful to trace all this, and contemplate all this, though we do meet with some of the

innocent frolics of childhood, and with some boyish follies. It makes our hearts glad to look back on the sunshine of our own infancy, when all could charm, because all was new, and the very air breathed gladness around us, and the spirit of gaiety danced in our young bosoms, and our countenances were fresh and smiling with health and joy. And when we see those who are one day to take our places in the world, lisping their broken phrases, and pleased with their little toys, and culling their handfuls of daises, or rompingly pursuing butterflies, we are delighted; because the memory of our own infant sports is then awakened and renewed; we live again in the Spring of our childhood;—we remember how green the fields were, and how bright the flowers bloomed;—we remember, that we were happy and delighted, and almost wish that we were young again, that we might enjoy the delights of infancy. Such is the feeling which sometimes arises, when we trace the history of infant literature waxing into strength. We sometimes wish, that we had lived in early times with the first philosophers, and watched the first dawn of the discoveries which are now our shining lights in the kingdoms of nature and of mind. But it must not be. We must submit to be carried along the current—the irresistible current—of time, and can only take a passing and transitory view of what is in ceaseless flow; for philosophy passes away, and

opinion passes away, and systems and theories are ever passing away, and nothing seems to be fixed,—nothing stationary. We are dupes to fashion, and to superstition, and to the influence of great names; but these, also, pass away, and other men, who shall come after us, will have other fashions, and another philosophy, and other great names, to look up to and worship with all the idolatry with which the schoolmen worshipped Aristotle, and with which we worship Newton, and Locke, and Shakspeare. Idolatry it must be, if we give up our own independence of mind,—our own right to think, and examine; and prostrate our intellect before the shrine of any philosopher, or other great man, and think only as he pleases to dictate from his system and his theory. Such, we are persuaded, none of our readers will do, if they know they are doing it. But this sort of idolatry of names is so exceedingly insidious, that we all commit it every day without knowing it; because it is the best of all apologies for indolence to say, "I think so, because Locke thought so, or Alison thought so, or Burke thought so." We thus escape the pain of uncertainty, by halting between two opinions.

But we are forgetting Alison, and the theory of association.—In order to do justice to the examination, it may be necessary to consider a few of the examples on which it is supported; for example does more in system-making than general reasoning

can effect, as it comes more home to the understanding. We shall take Mr. Alison's own illustrations, in what he has said of form. He says, that the instruments of war are sublime, because associated in our minds with the ideas of danger or power. Cannon, mortars, the sword, the dagger, therefore, enter into the sublimest descriptions of poetry or painting. This, however, seems to be a partial statement; for a cannon, mounted on its carriage, is an object more admired on account of its form than a mortar, and yet the mortar should be the most sublime, if the theory be true, for the cannon only makes a breach in a wall, or in a column of men, while the mortar hurls destruction among the innocent inhabitants of a city, and sweeps all before it, sex and age being undistinguished. The sight of any instrument of war is delightful to a victorious general, but excites very different associations in a general who has been always worsted; yet, though they have such opposite associations, they both agree that the form of a cannon is more beautiful than that of a mortar. Whence can this arise? How can they agree, when the associations are in opposition?

Mr. Alison says again, that what expresses long duration, and, consequently, strength, must be sublime, such as old trees and rocks; but there is no such expression in the weeping birch, which fixes its roots in the cleft of a precipice, and associates with

the sublimest scenery. Almost all the trees, indeed, which we meet with in sublime scenery, have the same character of feebleness as the weeping birch. The mountain-ash, the hazel, the bird-cherry, and others of slender form, are what are commonly seen in rugged defiles, and among mountain lakes. The oak and the forest-ash are never seen among sublime scenery in perfection. If seen there at all, they are generally stunted and dwarf-like. It may be said, that ships of war are very commonly associated with the oak, and that the oak owes to that circumstance the admiration in which its form is held; but the mere hull of a ship, the only part of it made of oak, is not admired without the tall masts of pine, and the canvas and cordage. There is a very strong fact against this theory; namely, that out of many oaks of the same age, and all of vigorous growth, and equally expressive of duration and strength, one may be selected for a painting as more worthy of admiration, as more sublime, than the others. How would Mr. Alison account for this?

On Mr. Alison's principles of association producing all that pleases us in the form of things, he would, we think, be ready to consider the form of a pen as entitled as much to our admiration, as any other form. By means of the pen, the greater part of our speculative and literary knowledge is obtained: works that delight us, that instruct us, that raise our thoughts

to God, are all, at first, transmitted to us by means of the pen. Our own thoughts and our own transactions are also, by this little instrument, most faithfully recorded; and yet nobody ever said that the form of the pen was sublime. We may have disagreeable associations with a pen as well as agreeable ones; but a pen does not on that account become disagreeable. Now what, we would ask Mr. Alison, becomes of all these associations? His theory affords no answer; and we conclude that, in this instance, association has no power.

Let us be understood, however: the poet or the painter, by the influence of their art, may make—not a pen—but the way in which they introduce a pen, sublime. The pen itself may form a portion of a sublime representation; may be sublime in combination, though not singly. But this is very different from Alison's account; for we should, according to him, admire the pen from our own associations, and not from those with which the poet or the painter encircles it in description or representation. The generalization seems equally faulty and absurd with that of Hazlitt, when he says that religion is poetry, and war is poetry, and passion is poetry, and dreaming is poetry, and life itself is poetry. Now all this would do very well if it were an expression of passionate feeling; and it does very well for Lord Byron to burst forth with the rapturous exclamation, "Ye stars, which are the poetry of heaven!"—and we at

once acknowledge the beauty of the figure; but for Mr. Hazlitt to sit quietly down and write that the stars are poetry, and the earth is poetry, is nothing but sober, tame, and not even laughable nonsense. When men let loose their dead or dying imagination in this way, there are no bounds to their absurdities.

We shall give you a few more of Mr. Alison's illustrations. He says, that the forms of animals are sublime, because they are associated with ideas of power and strength in proportion to their magnitude. But this is contrary to fact; for there is really no proportion between the size and the strength of an animal. No association can induce us to admire the appearance of an elephant or a whale; and the association of cowardiee and cruelty cannot divest a tiger of his beauty both of colour and form; nor can the heroic bravery of the wolf make us admire its form. The lioness is equally strong and powerful as the lion, and yet the addition of the mane, which does not necessarily indicate any particular disposition, makes us admire the lion more than his mate.

This leads us to make a more general observation, which must have been perceived by the reader—that among all the lower animals, whether beast, bird, or insect, the male is more beautiful than the female; which is directly the reverse of what takes place among men in a state of civilization, though among savage nations the fact holds the same as among the inferior animals. Now, this singular fact Mr. Alison's

theory does not clearly account for, as there is no association nor series of associations which would make a peacock look more beautiful to our eyes than a peahen; yet anybody would think you asked them in mockery, were you to put the question, which is the more beautiful? Among small birds, this difference is very remarkable: the chaffinch, the goldfinch, the gold-crested wren, and all birds, indeed, that have any splendour of plumage, are markedly different in the males and females, the males being always distinguished by their finer colours and their more slender and graceful forms. When this single fact can be explained to us satisfactorily on the theory of association, then, and not till then, shall we be disposed to give it more credit than we at present think it deserves: then, and not till then, shall we give up the doctrine that no colour and no form is beautiful in itself, and that there is nothing beautiful till it be engrafted with portions of love and pity and joy and other sentiments and passions. That we cannot admire the bright blue of the peacock's neck till we compare it with the blue of the sky—that we cannot admire the blue of the sky till we think of Spring—and cannot admire the Spring till we think of infancy, nor infancy till we think of health, nor health till we think of fearful tenderness, nor tenderness till we think of pity, and so on without end—and all this process is necessary before we can feel—before we are permitted to say that the peacock's neck is

beautiful! With the varying colours of the pigeon's neck the sky-blue association will not do; and Mr. Alison, we think, will have recourse to the character of gentleness which the pigeon has somehow or other erroneously gotten, probably from a misconception arising from the text, "Be ye as wise as serpents and harmless as doves," where the word harmless does not so much mean gentleness as simplicity, want of cunning, guilelessness, as must be evident from the contrast. Every body knows, that so far from being gentle, the dove is the most irritable and quarrelsome of all other birds; and so far from an opinion of its dispositions influencing our opinion of its beautiful form and colours, the very contrary seems to be the case—that, from its beautiful colour and form, an opinion which is not true has arisen concerning its gentleness. The Prophet Jeremiah understood the nature of the dove better when he said, "Their land is desolate because of the fierceness of the dove" *(eiona*, oppressor.)* Again he says, "Arise and let us go again to our own people from the oppressing sword" *(hareb eiona*, the sword of the dove.)† In explaining this string of associations, then, Mr. Alison's system will not do.

There are other forms which Mr. Alison has instanced, such as great height expressing magnanimity; but it never enters into anybody's fancy that a tall church steeple is magnanimous, though a

* Jer. xxv. 38. † Jer. xlvi. 16, & l. 16.

magnanimous person may be compared to it. Such associations rather partake of bombast; as when Horace says, "I shall raise my towering head to heaven;" and Ben Jonson's Sejanus says,

> "——— Great and high
> The world knows only two, that's Rome and I;
> My house receives me not, 'tis air I tread,
> And at each step I feel my advanced head
> Strike out a star from heaven———"

Now if great height is expressive of magnanimity, why does not Horace appear in the above passage to be a most exalted poet instead of a cold, dull, lifeless measurer of long and short syllables, intermixed with occasional obscenity and sarcastic and cynical drinking songs?

> "Then farewell, Horace, whom I hated so
> For thy chill measurements. It is a curse
> To understand, not feel, thy lyric flow;
> To comprehend but never love thy verse,
> Thou art-prescribing bard!—I so abhorr'd
> To conquer only for the measure's sake
> The drill'd dull lesson, forc'd down, word by word,
> In my repugnant youth, with pleasure to record
> Aught that recalls the daily drug which turn'd
> My sickening memory." LORD BYRON.

This is easily explained. Horace wrote on the Art of Criticism; and no critic, not even Dr. Johnson, could ever write a line of warm and glowing and genuine poetry. But granting this, why does not Sejanus appear a magnanimous hero?

As great height expresses magnanimity, so great depth, according to Mr. Alison, expresses danger or terror, and raises images of horror. Why? We believe you would scarcely guess the reason which Mr. Alison has discovered: it is, says he, because in all countries the popular hell is considered as an unfathomable abyss into which the souls of the wicked are plunged. It was Bishop Lowth's opinion, that this notion of hell being deep under the earth, must have originated in the practice of burying the dead under the earth. If so, this is making one other remove in the series of associations. But in many cases, we may say in most cases, Mr. Alison's explanation will not hold; for in looking down from a lofty precipice on a fertile and smiling valley, we surely have no idea of hell present in our minds. Listen to Goldsmith's description of such a scene:

> "Ev'n now where Alpine solitudes ascend,
> I sit me down a pensive hour to spend,
> And, plac'd on high above the storm's career,
> Look downward where a hundred realms appear:
> Lakes, forests, cities, plains extending wide,
> The pomp of kings, the shepherd's humbler pride."
>
> *Traveller.*

Is it necessary that man should call up in his mind the idea of hell, "ere, from the most elevated peak of some Alpine wilderness, he become capable of feeling the force and the majesty of those great lineaments which the hand of nature has thrown around him, in all the varied forms of precipice and mountain,

and the wave of mighty forests, and the rush of sounding waterfalls, and distant glimpses of human territory, and pinnacles of everlasting snow, and the sweep of that circling horizon which folds in its ample embrace the whole of this noble amphitheatre?"* Is it necessary to call up images of infernal horror, when the fearless aëronaut sails in the mid air, and delightedly looks on a sea of clouds beneath him, spreading and spreading as if the atmosphere were boundless, except where their parting waves of vapour disclose through their chasm far beneath, the green earth and its mountains, and its winding rivers, and the gleam of its sunny lakes, and the wide plain of its seas and of its oceans?

"Who that, from heights like these, his lab'ring eye
Shoots round the wide horizon to survey
The Nile or Ganges roll his wasteful tide
Thro' mountains, plains, thro' empires black with shade
And continents of sand, will turn his gaze
To mark the windings of a scanty rill
That murmurs at his feet? The high-born soul
Disdains to rest her heav'n-aspiring wing
Beneath its native quarry. Tir'd of earth
And this diurnal scene, she springs aloft
Thro' fields of air, pursues the flying storm,
Rides on the volley'd lightning thro' the heav'ns,
Or, yok'd with whirlwinds and the northern blast,
Sweeps the long track of day. Then high she soars

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* CHALMERS's *Astronomical Discourses.*

The blue profound, and, hovering o'er the sun,
She darts her swiftness up the long career
Of devious comets, and looks back on all the stars."

AKENSIDE.

Now, in all this rapturous flight of lofty and genuine poetry, where is to be traced any one of the Alisonian associations?

No—it is a paltry and partial philosophy that would thus chain down the range of human delight and of human pleasure to its narrow and nibbling explanations; and such a philosophy could not have been the offspring of any mind that could range at large through the works of God, and measure, by the magnificence around it, the littleness of its own attributes, and the darkness and dimness of its own fancied glory and its own dreaming pride of exaltation.

Mr. Alison's referring the sublimity of great depths to our associations with hell, proceeds upon the notion that fear and terror are the causes of sublimity. He takes it for granted, without proof; and it would certainly require proof, and strong proof, before we can give it our unqualified assent. So far from being true, it seems to us that sublimity is lost when fear takes possession of us, and sublimity is only restored when the fear departs. We would here make the very necessary distinction between the real sensations of fear and a description of such sensations or their effects by the poet or the painter. Such descriptions, if well managed, always partake

of sublimity; the real feelings, never. Fear and terror, when really felt, must always chill all the delightful emotions of sublimity and grandeur; they must naturally destroy all pleasing emotion; they must naturally wither all the finer feelings of the heart, and leave it desolate of thought—an icy blank, frozen up with the lone present of one ruling conception, the conception of fear.

The ideal beauty so much talked of and insisted on by critics in the fine arts, seems scarcely to deserve the name of ideal, as no idea nor conception of it can be formed in the mind. We will readily grant to Sir Joshua Reynolds, that "no man can judge whether any animal be beautiful in its kind, or deformed, who has only seen one of the species. This is as conclusive in regard to the human figure; so that if a man born blind were to recover his sight, and the most beautiful woman were brought before him, he could not determine whether she was handsome or not; nor if the most beautiful and most deformed were produced, could he any better determine to which he should give the preference, having seen only those two. To distinguish beauty, then, we must have seen many individuals of that species. If it is asked how is more skill acquired by the observation of greater numbers, it may be answered, that in consequence of having seen many the power is acquired, even without seeking after it, of distinguishing between accidental blemishes and excres-

cences, which are continually varying the surface of Nature's works, and the invariable general form which Nature most frequently produces, and always seems to intend in her productions."

All this may be readily granted; but we doubt very much whether we should grant what is deduced from these principles and such as these. For it is inferred, and attempted to be supported from the acknowledged practice of great masters, that after having made these multifarious comparisons of the individuals of a species, and selected what was most beautiful in each, and massed them into a whole, that this new production, which comprehends all the selected beauties, is the only possible beauty of that species; and in so far as it is receded from, deformity must ensue. An example will make this plain; and it is important, as it is made the basis of all the rules for painting. There are many thousand individual roses, each possessing some little variety in point of beauty: no two individuals, indeed, are completely alike in every particular, though all are confessedly beautiful. Now, in order to make a rose supremely beautiful—to make it the model of beauty—the artist is directed to select from each what is most beautiful, and make a combination of the several selections; and when he has done so, if he has had taste enough to select and genius enough to combine, then his rose is pronounced to be the most beautiful, though it be like no real rose in existence. The amateurs

and rule-makers go farther, and say that this rose of the painter is the only possible rose which can be the summit of beauty, and if any other painter were to paint a rose, he must either paint this identical one of selected combination, or every departure therefrom will be a failure: that is, in other words, there can be only one form and one colour of a rose supremely beautiful, and all other forms and colours are inferior in beauty. What is true of the rose is true of every thing animate and inanimate, according to this system. There is, therefore, only one horse that can be beautiful—only one peacock that can be beautiful; and it follows, also, that there can only be one landscape which can be supremely beautiful. Such is the principle, which appears so absurd that you may perhaps think we have exaggerated it, though we are not conscious of it. It seems to have arisen, in the first instance, from an anecdote told of a Grecian artist, who, when he was about to give all possible beauty to a Venus he had in contemplation, took a journey all over Greece—examined every female celebrated for beauty—selected what pleased him, and combined all his selections into a Venus. The whole is beautifully given by Campbell, in his Pleasures of Hope:—

> "When first the Rhodian's mimic art array'd
> The Queen of Beauty in her Cyprian shade,
> The happy Master mingled on his piece
> Each look that charm'd him in the fair of Greece:

To faultless Nature true, he stole a grace
From every finer form and sweeter face;
And, as he sojourn'd in the Egean isles,
Woo'd all their love, and treasur'd all their smiles;
Then glow'd the tints, pure, precious, and refin'd,
And mortal charms seem'd heav'nly when combin'd;
Love on the picture smil'd, Expression pour'd
Her mingling spirit there—and Greece ador'd."

Pleasures of Hope

All this, we confess, is a pleasing and pretty anecdote, but we very much question its truth. We would scarcely credit the artist himself, though he had told it to us, as he must have deceived himself, we think, if he ever said so; for it is much easier to practise than to explain the manner of practising; and we know that the Greeks, who were so eminent in practice, were seldom or ever right in their criticisms. A country gentleman, who was appointed a justice of the peace for his county, came in great distress to Sir Matthew Hale, complaining that he could do no good in his new office, for he knew nothing of the law. The shrewd and sensible advice of the lawyer was, to follow his own judgment, and never to attempt giving any reason for it, as his judgment had every chance to be right, though his explanation of it, or his trying to find law to support it, had as much chance of being wrong. So it was, we conceive, with this Grecian artist: he practised right, and gave a very wrong and very false account of that practice.

The fallacy is exactly similar to that of discussing and wrangling and theorising about beauty in general: and it is here as easily detected, if you think and examine, as in the other case. To return to the example of the rose: we think, that so far from there being only one form and colour of this flower superlatively beautiful, that there may be any number, all different in size, in form, and colour, among which it would be scarcely possible to pronounce which should have the preference. This is the opposite principle which we wish to establish,—namely, that the kinds of beauty, even in things of the same species, are multiplied and indefinite, and not confined to one solitary expression of form, of colour, or of feature; and the artist who is taught otherwise, and follows up what is erroneously taught in his practice, is sure to fail.

It will scarcely be necessary to proceed at much greater length, in examining Mr. Alison and Mr. Jeffrey's illustrations. We cannot, however, altogether pass over one or two other forms, which have been made choice of as proof. Mr. Alison says, that whatever has a winding or curved form is beautiful; and every body will agree with him in this, though they do not go all the length of Hogarth in his Analysis. But who would agree with Mr. Alison, in the reason why winding and curved forms are beautiful? Who could have discovered it, except Mr. Alison, or some other system-builder?

He says, that we ascribe beauty to winding lines and forms, because they express tenderness and delicacy, infancy and weakness. He gives, as usual, a number of examples, which seem to support this; but he leaves out all that make against it. He says, that young animals and plants are distinguished by winding and curvilinear forms, which old ones are not. He instances, also, the weeping willow, the tulip, and the lily of the valley. But he forgot to tell us, that the arch of a bridge, so far from expressing weakness, delicacy, tenderness, and infancy, expresses the very reverse of all these, and yet it is esteemed beautiful. The arch of the sky, the concave vault above us, expresses neither infancy, nor weakness, nor tenderness, at least to us it does not; and yet, in the absence of all these associations, we say, the vault of heaven, when spangled with stars, or when variegated with its morning or evening clouds, or when tinged with its deep and cloudless blue, is beautiful, and all agree to call it beautiful, though they can trace none of those associations with it of infancy, or tenderness, or weakness, or delicacy.

"——— Ask the swain,
Who journeys homeward from a summer day's
Long labour, why, forgetful of his toils
And due repose, he loiters to behold
The sunshine gleaming, as thro' amber clouds,
O'er all the western sky? full soon, I ween,

His rude expression and untutor'd airs,
Beyond the power of language, will unfold
The form of beauty smiling at his heart,
How lovely, how commanding!" AKENSIDE.

There is a very striking form, which every body, in spite of associations the most disagreeable, considers the most beautiful—we refer to the curves of a snake. Surely, Mr. Alison would not assert that a snake was beautiful, because its curves express delicacy, and weakness, and tenderness. The associations are with its venom, its cunning, and its danger; and yet, with all these disagreeable associations, the curves of the serpent are universally esteemed beautiful.

"On his rear
A circular base of rising folds, that tower'd
Fold above fold, a surging maze; his head
Crested aloft, and carbuncle his eyes;
With burnish'd neck of verdant gold, erect
Amidst his circling spires, that on the grass
Floated redundant: pleasing was his shape
And lovely: never since of serpent kind
Lovelier.
With tract oblique
At first, as one who sought access, but fear'd
To interrupt, sidelong he works his way.
So varied he, and of his tortuous train
Curl'd many a wanton wreath in sight of Eve,
To lure her eye. Oft he bow'd
His turret crest and sleek enamell'd neck,

Fawning, and lick'd the ground whereon she stood.
Hope elevates and joy
Brightens his crest: as when a wandering fire,
Compact of unctuous vapour, which the night
Condenses and kindles into flame.
So glistens this dire snake." *Paradise Lost.*

This illustration brings to remembrance one which we formerly examined, and brings Mr. Alison clearly to contradict himself, or, at least, to be inconsistent with himself. We have formerly seen, that he considered the oak and other trees sublime, because they expressed duration and strength; and here, he says, that winding lines are beautiful, because they are expressive of tenderness, weakness, and delicacy. But the fact is, that the curving of the branches is the reason why we admire trees, and if so, then sublimity is something different from beauty, which is in direct opposition to the express statement made both by Mr. Alison and Mr. Jeffrey, that there is no difference between what is beautiful, what is sublime, and what is picturesque. Which is, in other words, to say that the theory is right, and all mankind are in the wrong.

Mr. Alison has some singular heresies, also, about imitation, in asserting, that it may be so perfect as to deceive us into a belief of reality; but that, whenever we are told that an object, which we admire, is an imitation in iron or any other metal, the beauty instantly vanishes; and why? because, says he, the

conviction of the force and labour employed in the imitation, destroys the feeling of beauty. It clearly follows, from this explanation, that imitations, in proportion to the stubbornness of the material employed, must approach to beauty or recede from it, which is contrary to fact. It would, also, follow, that the beauty of a painting, a statue, or a poem, would disappear as soon as we should be convinced that they had required long and patient and hard labour to perfect them. Statues, in particular, could never be beautiful, when executed in bronze or marble, though they might be so in wax or Paris plaster, if they did not indicate long labour by the artist. Mr. Alison's apology for admiring a statue is, that it expresses excellence in the workmanship; but if an imitation in iron, or any other rigid or hard material, destroys our notions of beauty, because it destroys our conceptions of reality, then we can never admire a statue at all, for we are never deceived—no, not for a moment, that a statue is a living object. On the same principles, Mr. Alison asserts, that a bar of iron, twisted into the most perfect spiral form, is beautiful; but that the conviction of the force and labour employed, destroys the beauty of the form. But what is very strange and inconsistent, as it appears to us, is the assertion, that the same bar of iron, if reduced to the state of fine wire, is restored to beauty: Mr. Alison surely forgets that it requires more force and labour to make the fine

wire than the spiral—and that, on that account, the wire ought to be disagreeable rather than beautiful; nay, that the finer the wire is, the less beauty it ought to have, because there is more labour required to produce it.

But we may be accused of misrepresenting Mr. Alison's opinions, for the purpose of making them appear ridiculous; and it may be maintained, that he nowhere asserts the doctrine that there is nothing beautiful of itself, independent of association. Hear his own words, and believe that we have, in no case, misrepresented his theory. These are Alison's own words:—"As there appears to be no form which is peculiarly or solely beautiful, and as, in winding or curvilinear forms, the general nature of language seems to ascribe this beauty to their expression of delicacy, and not to the mere circumstance of form itself, it appears probable, that the beauty of such forms arises from this expression, and not from any original fitness in such forms to excite this emotion." This is express and decided, if it were not clear from a hundred other passages, and, indeed, from the whole spirit of the book, that he peremptorily denies the existence of all beauty independent of the mind, which perceives it, and calls up its associations to create it.

That we may not be understood, however, to reject the influence of association, because Mr. Alison has abused it, by carrying it too far, we shall give an

instance from Mr. Jeffrey, in which it holds very strongly. We refer to our estimate of the beauty of dress, according to the prevalence of fashion. "All persons who still continue to find amusement in society, and are not old enough to enjoy only the recollections of their youth, think the prevailing fashions becoming and graceful, and the fashions of twenty or twenty-five years old intolerably ugly and ridiculous. The younger they are, and the more they mix in society, this impression is the stronger; and the fact is worth noticing, because there is really no one thing as to which persons, judging merely from their feelings, and, therefore, less likely to be misled by any systems or theories, are so very positive and decided, as that established fashions are beautiful in themselves; and that exploded fashions are intrinsically, and beyond all question, preposterous and ugly. We have never yet met a young lady or gentleman who spoke from their hearts, and without reserve, who had the least doubt on the subject, or could conceive how any person could be so stupid as not to see the intrinsic elegance of the reigning mode, or not to be struck with the ludicrous awkwardness of the habits in which their mothers were disguised. Yet there can be no doubt, that if these ingenious critics had been born with the same natural sensibility to beauty, but twenty years earlier, they would have joined in admiring what they now laugh at, as certainly as those who succeed them

twenty years hereafter will laugh at them. It is plain, then, and we think can scarcely be disputed, out of the circles to which we have alluded, that there is, in the general case, no intrinsic beauty or deformity in any of those fashions: and that the forms and colours and materials, that are, we may say, universally and very strongly felt to be beautiful, while they are in fashion, are sure to lose all their beauty as soon as the fashion has passed away. Now, the forms, and colours, and combinations, remain exactly as they were; and, therefore, it seems perfectly obvious, that the source of their successive beauty and ugliness must be sought in something intrinsic, and can only be found in the associations which once recommended, and ultimately degraded, them in our estimation. While they were in fashion, they were the forms and colours which distinguished the rich and the noble, the eminent, the envied, the observed in society. They were the forms and colours in which all that was beautiful, and admired, and exalted, were habitually arrayed. They were associated, therefore, with ideas of opulence, and elegance, and gaiety, and all that is captivating and bewitching in manners, fortune, and situation, and derived the whole of their beauty from those associations. Bye-and-bye, however, they were deserted by the beautiful, the rich, and the elegant, and descended to the vulgar and dependant, or were only seen in combination with the antiquated airs of faded

beauties or obsolete beaux. They thus became associated with ideas of vulgarity and derision, and with images of old and decayed persons, whom it is difficult for their juniors to believe ever to have been young or attractive; and the associations being thus reversed, in which all their beauty consisted, the beauty itself naturally disappeared."

Again, "old people have in general but little toleration for the obsolete fashions of their later or middle years, but will generally stickle for the intrinsic elegance of those which were prevalent in the bright days of their early youth,—as being still associated in their recollections with the beauty with which they were first enchanted, and the gay spirits with which they were then inspired. In the same way, when we laugh at the fashions of which ladies and gentlemen were proud in the days of our childhood, because they are now associated only with images of decrepitude and decay, we look with some feelings of veneration on the habits of more remote generations, the individuals of which are only known to us as historical persons; and with unmingled respect and admiration on those still more ancient habiliments, which remind us either of the heroism of the feudal chivalry, or the virtue and nobleness of classical antiquity. The iron mail of the Gothic knight, or the clumsy shield and naked arms of a Roman warrior, strike us as majestic and graceful, merely because they are associated with nothing but

romantic daring or patriotic prowess;—while the full-bottomed perriwigs that were added to the soldier's equipment in the days of Lewis XIV. and King William, and, no doubt, had a noble effect in the eyes of that generation,—now appear to us equally ridiculous and unbecoming, merely because such appendages are no longer to be seen but upon the head of sober and sedentary lawyers, or in the pictures of antiquated esquires."

Now, the greater part of these doctrines, which we have given at full length, lest we might be thought to misrepresent, seem to be correct. Association produces a very wonderful alteration in our opinions, as these striking instances clearly show. The point in which we beg leave to differ from Mr. Jeffrey is, his assertion that there is no real beauty at all in either the colours or forms of these changing fashions of dress. We readily grant him, that an obsolete fashion may appear to us, from induced associations, the very reverse of beautiful; but this does not prove that it would not be thought beautiful by those who had never seen it at all. On the stage, we see many dresses which we never see any where else; and the very first time we see them we pronounce on their beauty, before we can have formed either agreeable or disagreeable associations. Whence does this arise? Is it not from some intrinsic beauty in the colours or the forms? Why did the African prince fall in love at first sight with

Mungo Park's coat, with which he could not have formed any association? Most of all, we would ask why fashions ever come to be introduced, if there is no beauty which arises not from association? A piece of dress must have some beauty of its own to recommend it, otherwise it could not, in the first instance, come into fashion at all. No, says Mr. Jeffrey, it has no beauty in itself, till you associate it with the rank and beauty of the wearer: that is, in other words, no fashion is beautiful till we have seen it worn by a person of great beauty, or of high rank. This, we must say, is directly contrary to our experience; but we can only speak for ourselves. The associations, which he mentions, enhance the beauty, but they do not, we imagine, create it out of nothing; for the first time we see a new dress, before we can have formed the supposed associations, we can pronounce on its beauty,—and this we could not do if the theory be true. If all colours are alike beautiful, and all forms are alike beautiful, independant of association, then it would follow, that no newly-introduced colour in fashionable dress would gain admirers, till it had been seen on a beauty, or a person of high rank. This is certainly not the fact.

It would follow, also, from the theory, that there can be nothing real in the common notion of adapting certain colours to certain complexions; and that whatever sort of dress may be worn by a beauty, becomes, from that circumstance, beautiful. This,

also, we believe, is contrary to universal experience; for some colours are evidently better suited to particular complexions than other colours; and some forms of dress are better suited, also, than others, to those of this and the other form and shape. In a word, if a judge and a modern dandy were to interchange dresses for one month, the old dress of the judge would, at the end of the month, appear to be insufferable frippery; and the dandy's dress, now almost laughed out of existence, would appear grave and solemn, merely because the judge had worn it a month. This, also, is contrary, we believe, to the experience of all. We would conclude, therefore, in opposition to Alison and Jeffrey, that there certainly are many things which have in themselves a character of beauty, and a power to please us previous to, and away from, any associations connected with them.

Another of the illustrations on which we touched slightly before, requires to be more closely examined; we refer to female beauty. We shall give you, as in the last case, the account stated by Mr. Jeffrey, in *The Edinburgh Review*. He goes on to say, "that the most beautiful object in nature, perhaps, is the countenance of a young and beautiful woman; and we are apt, at first, to imagine, that, independent of all associations, the forms and colours which it displays are, in themselves, lovely and engaging, and would appear charming to all

beholders, with whatever other qualities or impressions they might happen to be connected. A very little reflection, however, will be sufficient to convince us of the fallacy of this impression; and to satisfy us that what we admire is not a combination of forms and colour, which could never excite any mental emotion, but a collection of signs and tokens of certain mental feelings and affections, which are universally recognized as the proper objects of love and sympathy. Laying aside the emotions arising from difference of sex, and supposing beauty to be contemplated by the pure and unenvying eye of a female, it seems quite obvious, that among its ingredients we should trace the signs of two different sets of qualities that are neither of them the object of sight, but of a higher faculty; in the first place, of youth and health; and, in the second place, of innocence, gaiety, sensibility, intelligence, delicacy, or vivacity. Now, without enlarging upon the natural effect of these suggestions, we shall just suppose, that the appearances, which must be admitted, at all events, to be actually significant of the qualities we have enumerated, had been, by the law of nature, attached to the very opposite qualities; that the smooth forehead, the firm cheek, and the full lip, which are now so distinctly expressive to us of the gay and vigorous periods of youth, and the clear and blooming complexion, which indicates health and activity, had been, in fact, the forms and

colours by which old age and sickness are characterised; and that, instead of being found united to those sources and seasons of enjoyment, they had been the badges by which nature pointed out that state of suffering and decay, which is now signified to us by the livid and emaciated face of sickness, or the wrinkled front, the quivering lip, the hollow cheek of old age. If the smile, which now enchants us as the expression of innocence and affection, were the sign attached by nature to guilt or to malignity,—if the blush which expresses delicacy, and the glance that speaks intelligence, vivacity, and softness,—had always been found united with brutal passion or idiot moodiness, is it not certain, that the whole of their beauty would be extinguished?"

Now, although there is a great deal of truth in some of those remarks and reasonings, we think, if we admit them in their whole and unqualified extent, that we shall land ourselves in gross absurdity. For example, health is said to be an invariable association with beauty; it would follow, that we could not tell whether a lady was healthy or not, unless her face was beautiful. Nay, there are some diseases, hectic fever, for instance, which greatly improves the beauty of particular complexions, though it does not always effect this; yet, in such cases, even the physician, who knows it as the indication of fatal disease, cannot force himself to think that

the face is not beautiful,—is not improved in beauty. Those who have very full eyes, with large pupils, are almost uniformly of a weak and sickly habit of body, as we remarked before; and yet such eyes are, in all countries, esteemed beautiful; and appear so, also, even to those who are aware that they indicate weakness. Even the knowledge of vicious or improper conduct in a beautiful woman does not make us consider her to be, therefore, deprived of all her beauty. It may, and ought to, diminish our respect for her; but, though we know her to be abandoned to every sort of crime and indecorum, we cannot withhold our testimony to the beauty of her form and complexion, which, in many cases, is so powerful as even to overcome our detestation of her guilt. If the theory were true, this could not be; for the moment we knew of her indecorum or her guilt, all her beauty must, according to the theory, immediately vanish; for, according to it, all her beauty depends on our opinion of her innocence and health. What would even become of the beauty of Venus, herself the goddess of beauty, if this were true, for she was far from being innocent, according to all the systems of mythology? Now, every body, who has dipped at all into literature, ought to have such associations of indecorum with statues or paintings of Venus, and they ought, therefore, to appear ugly, however finely executed.

But such is the feeling of none whom we have heard of. The theory in this, then, is certainly faulty and imperfect.

Besides, there are, perhaps, a greater number of females of plain and homely appearance, who have health, and innocence, and intelligence, and gaiety, and delicacy, and vivacity, than of those called beauties, who have these qualities and dispositions. And why, if the theory be true, do we not consider every female who has those qualities and dispositions beautiful? Fact and experience shows, that this is not the case; otherwise, every woman who possessed these would be esteemed beautiful. The truth is, that we make a marked distinction between a lady who is beautiful, and one who is amiable. Amiableness is, perhaps, a more engaging quality than mere beauty, though it may, and often is, possessed where there is little beauty. According to the theory, amiableness must always be the same with beauty, which is contrary to the universal opinion of mankind; for every one has, some time or other, seen beauty where amiableness, and the other Alisonian requisites, were altogether wanting. According to the theory, also, the high-purple cheek of a peasant-girl would be beautiful, because it indicated health; which is not the case: nay, there are many faces which would be reckoned beautiful which have little of this rosy colour, that is so highly thought of by Alison. Again, it may be

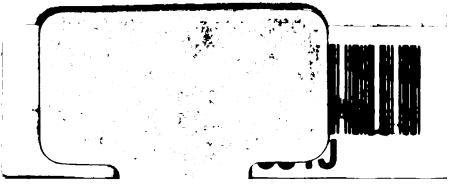
asked, why does not a negress appear to be beautiful to us, when we know her to be young, and healthy, and innocent? That she does not so, is a strong proof to us, that pink is not the necessary sign of health and purity. And we conclude, that female beauty, and all beauty, though it may be modified by association, is not wholly dependent on it, and has indestructible characters from nature, which we cannot do away with by any theory. And we would ask Mr. Alison,—who says there is no beauty, —we would ask—

> " Did Nature mean
> This awful stamp the herald of a lie,
> To hide the shame of discord and disease,
> And catch, with fair hypocrisy, the heart
> Of idle faith?———Thee, Beauty, thee
> The regal dome, and thy enlivening ray,
> The mossy roofs adore: thou, better sun!
> For ever beamest on the enchanted heart
> Love and harmonious wonder and delight
> Poetic. Brightest progeny of heaven!
> How shall I trace thy features? where select
> The roseate hues to emulate thy bloom?
> Oh, bear then unreprov'd
> Thy smiling treasures to the green recess
> Where young Dione strays. With sweetest airs
> Intice her forth, to lend her angel form
> For beauty's honour'd image. Hither turn
> Thy graceful footsteps; hither, gentle maid,
> Incline thy polish'd forehead; let thy eyes
> Effuse the mildness of their azure dawn;

And may the fanning breezes waft aside
Thy radiant locks, dissolving as it bends,
With airy softness, from the marble neck,
The cheek fair blooming, and the rosy lip;
Where winning smiles and pleasures, sweet as love,
With sanctity and wisdom, temp'ring blend
Their soft allurement.
———But what need words
To paint her power? For her the daring
Youth breaks from his weeping mother's anxious arms,
In foreign climes to roam."

AKENSIDE.

We hope, that after what has been so eloquently said by the poet of beauty, and what has been felt by all, that none of our fair readers will allow themselves to be cajoled by the pretty style of Alison to believe that beauty is all a dream, and does not reside in the object, but in the mind which contemplates the object; and that they will agree with Mr. P. Knight, that there are some colours and some forms intrinsically and independantly beautiful.

THE END.

LONDON:
Printed by D. S. Maurice, Fenchurch Street.